DOCUMENT RESUME

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ABSTRACT

This volume of the report presents Criterion-referenced tests developed to assess student achievement in classes whose teachers did or did not use curriculum guides (developed in phase 1 of this project) for instructional decisionmaking. A total of 38 cognitive tests are included: 8 for career awareness units, 4 for career exploration units, and 26 for career preparation units in the areas of agricultural production and agricultural supplies and services. In addition, two affective tests, one for grades 4 through 6 and one for grades 7 through 9, assess the students' attitudes and appreciations concerning the world of work. A table follows each test which presents the correct test answers, results of the final item analysis, and test reliability. Information provided for each item includes relative difficulty, PHI coefficient, point biserial coefficient, and discrimination index. Tests in the career preparation units are preceded by a statement of student performance objectives for the unit. (RG)

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APPENDIX C

Final Report

Project No. V257018
Contract No. OEG-0-72-4677

CURRICULUM DEVELOPMENT BASIC TO THE TRAINING OF INDIVIDUALS FOR EMPLOYMENT IN AGRIBUSINESS, NATURAL RESOURCES, AND ENVIRONMENTAL PROTECTION

Curriculum Development Project
in Vocational Education
Conducted Under
Part I of Public Law 90-576

Dr. Roger Roediger, Project Director
(June, 1972 - June, 1974)
Dr. Max B. McGhee, Project Director
(June, 1974 - September, 1975)
Larry Householder, Project Director
(September, 1975 - June, 1976)

Ohio Career Education and Curriculum Management
Laboratory in Agricultural Education
The Ohio State University
2120 Fyffe Road
Columbus, Ohio 43210

June 14, 1976

VOLUME FOUR OF FIVE VOLUMES

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
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LIST OF UNITS
APPENDIX C

Career Awareness Units

Peanut Butter Maker
Park Ranger Naturalist
Florist
Farm Equipment Mechanics
Forest Technician
Affective Test for Grades 4-6
Environmental Technician
Livestock Producer
Feed Sales Personnel

Career Exploration Units

Affective Test for Grades 7-9
Agricultural Products (Food Processing)
Environmental Protection
Forestry
Ornamental Horticulture

Career Preparation Units

- Agricultural Production
  - Livestock Selection
  - Breeding Systems
  - Balancing Rations for Livestock
  - Detecting and Controlling for Common Livestock Diseases
  - Castrating, Dehorning, Identifying, Injecting Livestock
  - Market Classes and Grades of Livestock
  - Controlling Weeds in Farm Crops
  - Electric Welding in Agricultural Mechanics
  - Using Concrete on the Farm
  - Maintenance of Small Gasoline Engines
  - Electric Motors - Selection and Maintenance
  - Controlling Insects in Farm Crops
  - Determining Fertility Needs
  - Drying Farm Crops
  - Planning and Establishing Farm Reservoirs
  - Keeping Farm Accounts
  - Operation and Care of Small Gasoline Engines
  - Oxy-Acetylene Welding and Cutting
  - Selection of Common Hand and Power Tools

Agricultural Supplies and Services
- Agricultural Supplies and Services Salesmanship and Selling
- Agricultural Supplies and Services Business Procedures and Records
- Determining Fertilizer and Lime Needs
- Utilizing Chemicals for Agricultural Problems
- Human Relations in the Agricultural Supplies and Services Business
- Formulating Feed Mixtures
- Making Seed Recommendations

PEANUT BUTTER MAKER

Teacher Instructions: Each item should be read aloud twice to the students. Allow appropriate time for marking. Periodically check to see that students have understood the questions. (Use a black or dark mark for making the X's. Pictures may be colored.)

First Page Instructions: Read Aloud

"There are 4 questions on this page. They are marked A,B,C and D. There are four pictures across the page. Mark only one answer from the four pictures. Make your answer cover the picture. Make it a dark color."

A. Put an X on the picture of a food that does not grow in a pod.

B. Put an X on the picture of a food that does grow in a pod.

C. Put an X on the picture of something used to make peanut butter taste better.

D. Put an X on the picture of something that we do not add to peanut butter to make it taste better

Second Page Instructions: Read Aloud.

"Do questions E and F like you did before."

E. Put an X on your answer to..."I would like to be a peanut butter maker."

F. Put an X on the picture of anyone who can be a peanut butter maker.

STOP

"The directions are different for G and H."

G. Put a dark line between the part of the plant that grows above the ground and the part that grows in the ground.

H. Put the peanut pictures in the correct processing order... from field to jar. First cut out the pictures. Then paste the picture of the first step in box 1, second step in box 2, third step in box 3, and fourth step in box 4.

NAME ______________________________

GRADE (K) (1) (2) (3)

BOY

GIRL

WHERE YOU LIVE

CITY

TOWN

COUNTRY

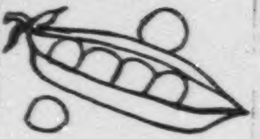
TEACHER'S NAME

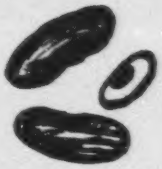
____

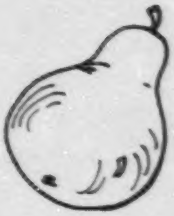
A (YES) (?) (NO)

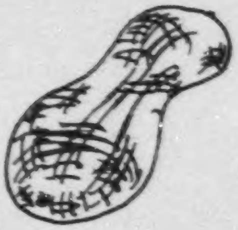
PEANUT BUTTER MAKER

A









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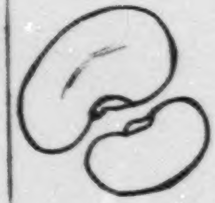

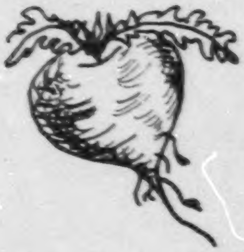

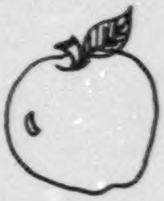

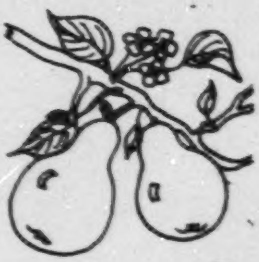

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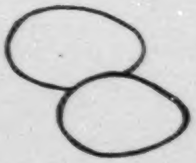

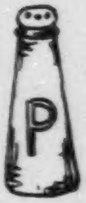

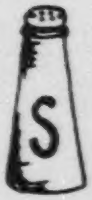

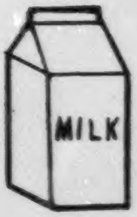

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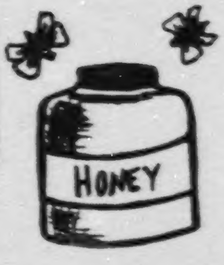

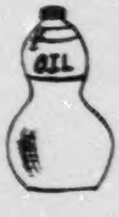

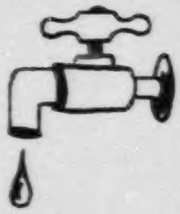

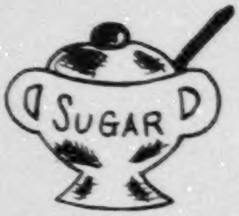

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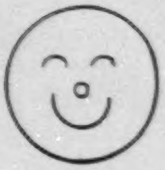
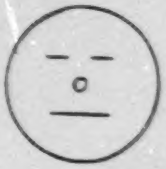
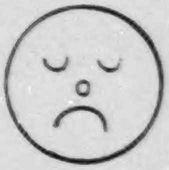
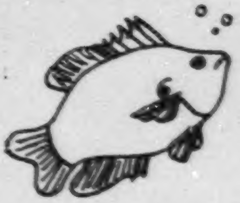


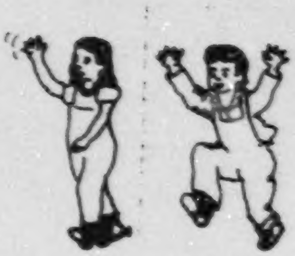


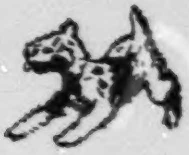


?

F







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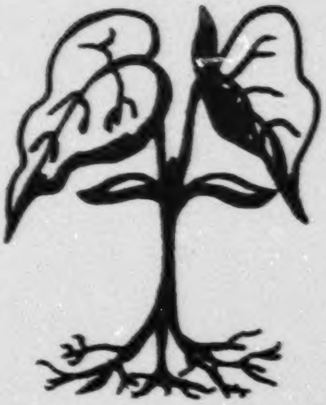


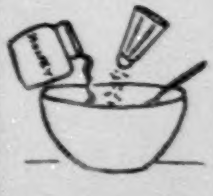
H

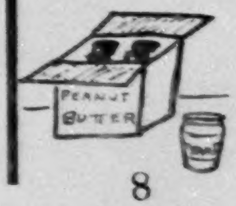
1

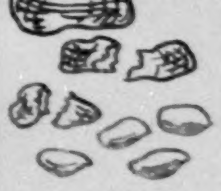
2

3

4




PEANUT BUTTER



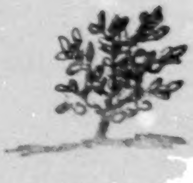


TABLE: 011S
AREA: Peanut Butter Maker
TEST NO.: 011
KUDER-RICHARDSON 20: .727
KUDER-RICHARDSON 21: .702

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	C	.307	.930	.587	63.0
2.	A	.271	.869	.513	51.6
3.	C	.574	.996	.594	83.2
4.	C	.470	.790	.330	46.3
5.	A	.366	-.047	.011	-3.0
6.	B	.086	.411	.314	16.7
7.	A	.280	.827	.431	46.7
8.	D	.33	.988	.718	79.2
9.	C	.345	.992	.706	81.1
10.	A	.414	.000	.753	93.4
11.	B	.417	.996	.693	83.7
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

TABLE: 011A
AREA: Peanut Butter Maker
TEST NO.: 011
KUDER-RICHARDSON 20: .667
KUDER-RICHARDSON 21: .624

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	C	.288	.930	.536	72.9
2.	A	.356	.972	.643	81.0
3.	C	.625	.790	.433	59.0
4.	C	.596	.729	.364	52.4
5.	A	.365	.156	.118	9.5
6.	B	.077	.309	.123	11.0
7.	A	.308	.368	.241	20.0
8.	D	.365	.951	.653	77.6
9.	C	.365	.969	.637	82.4
10.	A	.519	.998	..737	95.2
11.	B	.462	.972	.668	81.0
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

PARK RANGER NATURALIST

Teacher Instructions: Each item should be read aloud twice to the students. Allow appropriate time for marking. Periodically check to see that students understood the directions

First Page Instructions: Read Aloud

All of the questions on this page have to do with a Park Ranger Naturalist and his work.

A. A park ranger works near a fire tower.

B. A park ranger needs to know how to build campfires so that he can show others.

C. A park ranger works at night.

D. A park ranger works in all kinds of weather.

Second Page Instructions: Read Aloud

E. Which picture tells the most about a park ranger and his work? Make an X on the picture.

F. Which picture does not tell about a park ranger and his work? Make an X on the picture.

G. Which picture makes you think of a park ranger the most? Make an X on the picture.

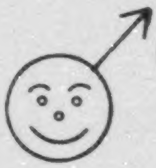
H. Which picture shows when a park ranger works. Make an X on the picture.

Third Page Instructions: Read Aloud

I and J Identify the leaf in the left column with the picture that describes it most in the right column. Draw a dark line between the leaf picture and the answer.

K and L Cut the four boxes out at the bottom of the page. Paste the "Indoors" pictures in the K box and paste the "Outdoors" pictures in the L box.

NAME ____________________


BOY

GIRL

GRADE (K) (1) (2) (3)

WHERE YOU LIVE

CITY

TOWN

COUNTRY

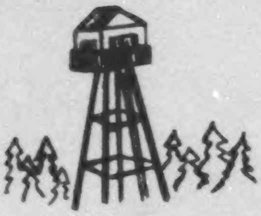
TEACHER'S NAME

____

A (YES) (?) (NO)

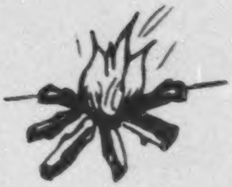
PARK RANGER NATURALIST

A



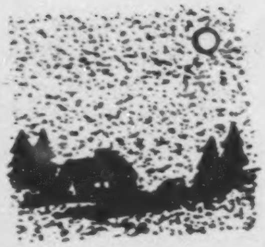
YES ? NO

B



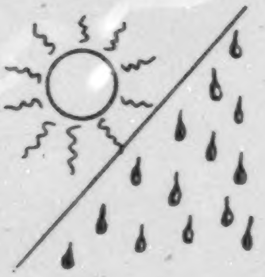
YES ? NO

C



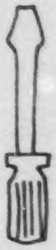
YES ? NO

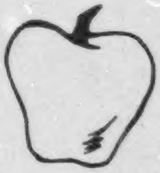
D

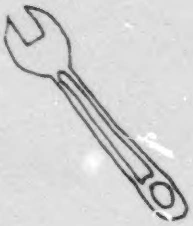


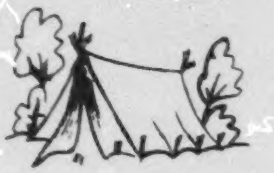
YES ? NO

E









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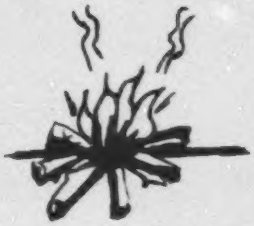

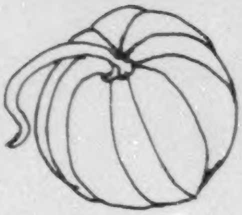

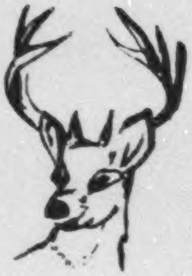

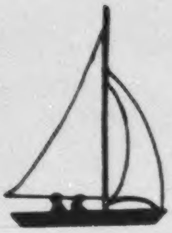

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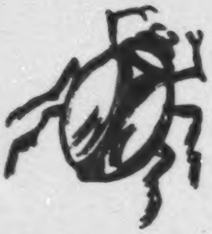

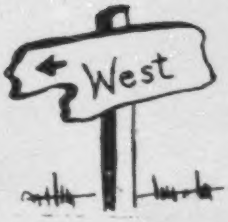

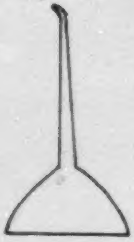

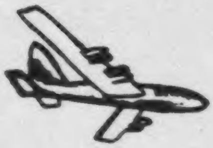

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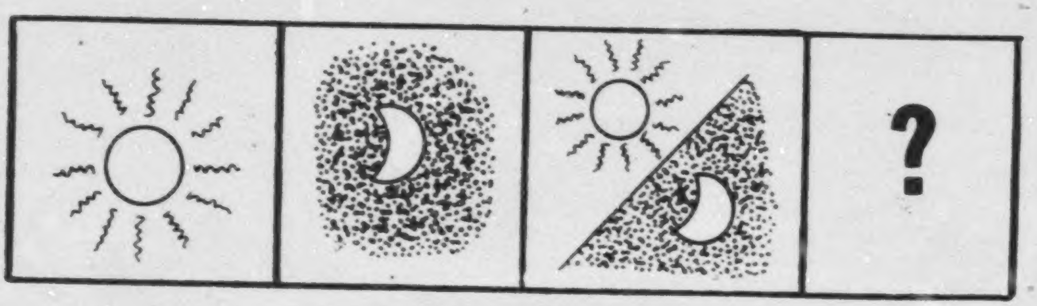

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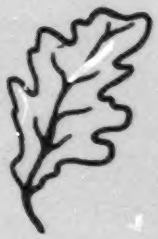

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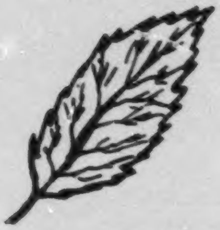
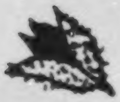
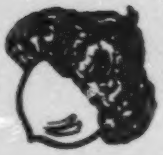
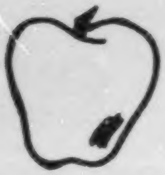


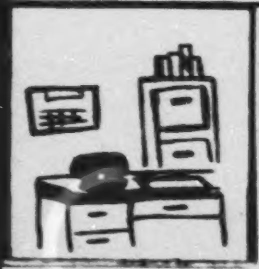


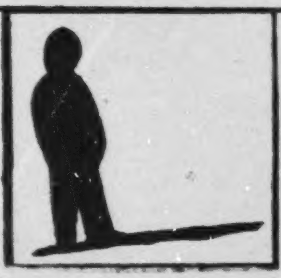


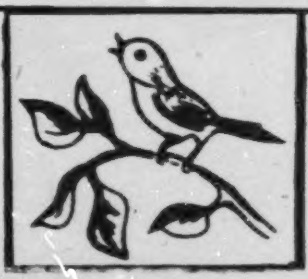


K INDOORS

L OUTDOORS







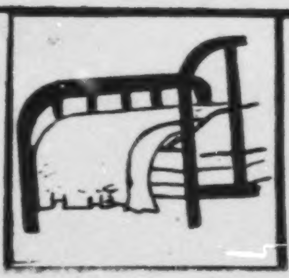


TABLE: 021S
AREA: Park Ranger Naturalist
TEST NO.: 021
KUDER-RICHARDSON 20: .615
KUDER-RICHARDSON 21: .537

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	A	.379	.956	.483	68.2
2.	A	.184	.836	.440	41.5
3.	A	.421	.869	.412	54.0
4.	A	.368	.884	.466	56.9
5.	D	.221	.750	.314	36.4
6.	B	.216	.696	.332	29.0
7.	B	.416	.740	.358	41.6
8.	C	.589	.827	.459	51.3
9.	B	.237	.935	.509	60.2
10.	A	.526	.911	.426	62.1
11.	A	.074	.413	.360	18.8
12.	B	.074	.673	.377	20.5
13.	B	.074	.413	.420	18.8
14.	A	.068	.718	.495	25.0
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TABLE: 021A
AREA: Park Ranger Naturalist
TEST NO.: 021
KUDER-RICHARDSON 20: .593
KUDER-RICHARDSON 21: .500

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	A	.378	.969	.631	72.5
2.	A	.146	.707	.217	27.3
3.	A	.390	.965	.554	72.3
4.	A	.317	.946	.553	63.6
5.	D	.134	.411	.279	22.3
6.	B	.159	.454	.283	22.5
7.	B	.439	.941	.498	67.3
8.	C	.524	.999	.620	86.1
9.	B	.256	.853	.363	45.5
10.	A	.415	.760	.348	40.5
11.	A	.000	.000	.000	00.0
12.	B	.049	.411	.337	13.6
13.	B	.000	.000	.000	00.0
14.	A	.073	.413	.374	18.2
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FLORIST

Teacher Instructions: Each item should be read aloud twice to the students. Allow appropriate time for marking. Periodically check to see that students understood the directions.

First Page Instructions: Read Aloud

"Draw a line from each picture in the left column to the season in which it fits in the right column. Draw a line for picture A,B, and C."

"For question D, think of the four seasons. Spring, summer, autumn, and winter. There are four pictures which represent 3 different seasons. Put the numeral 1 in the box or boxes under the picture representing spring, 2 for summer, 3 for autumn, and 4 for winter."

Second Page Instructions: Read Aloud

"Draw a line from each picture in the left column to the season in which it fits in the right column. Draw a line for picture E,F, and G."

"There are 4 pictures in question H. They show the steps in the life of a bean plant. The pictures are not in order. Decide which comes first and put the numeral 1 in the box under that picture. Then decide which is next, put a 2 in that box. Put a 3 in the box showing the third step and 4 in the box for the fourth step."

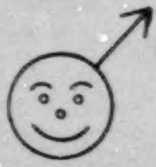
Third Page Instructions: Read Aloud

I. "If you were a florist which one of the three things would you need the least in making a flower arrangement. Put an X on the picture."

J. "If you were a florist which one of the four things would you need the most in making a flower arrangement. Put a X on the picture."

K. "On the bottom of the page are 4 pictures. There is one picture for each season. Cut out each picture and paste into the boxes numbered with 1,2,3 and 4. Put the seasons in order starting with spring in box 1."

NAME ____________________



BOY

GIRL

GRADE ○ K ○ 1 ○ 2 ○ 3

WHERE YOU LIVE

CITY

TOWN

COUNTRY

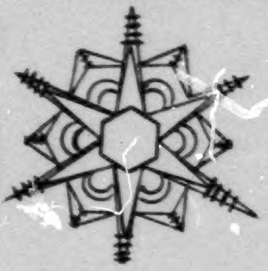
TEACHER S NAME

____

A ○ YES ○ ? ○ NO

FLORIST

A



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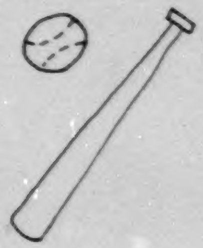

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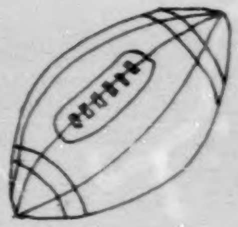

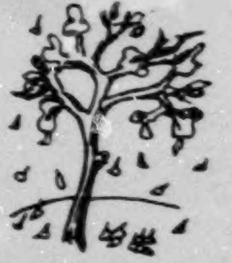

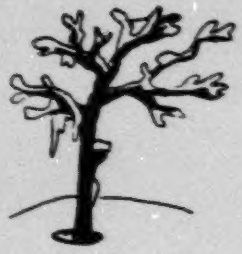

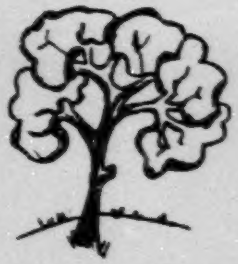

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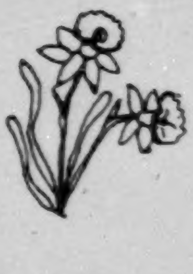

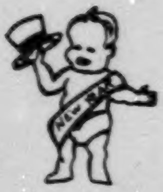

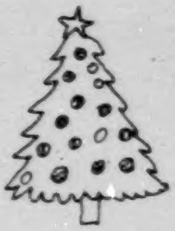

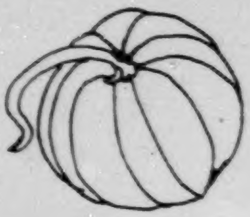

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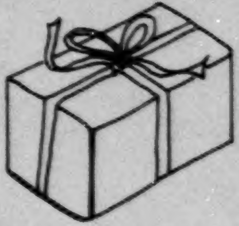
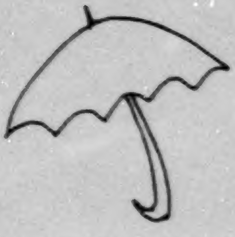
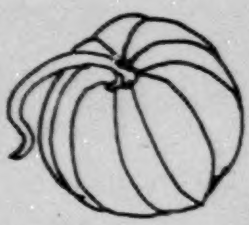
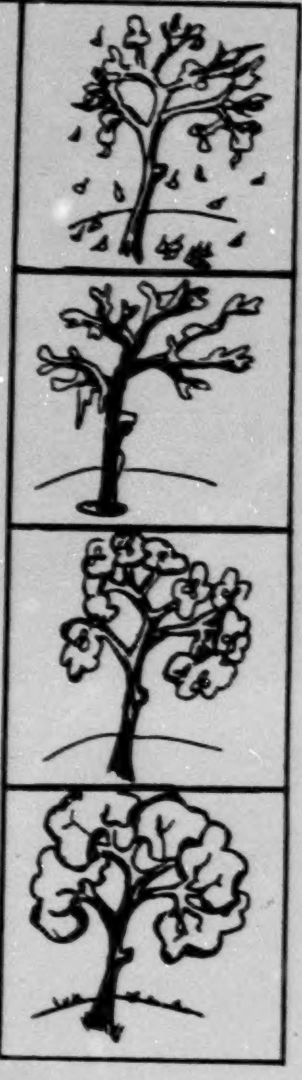
E 

F 

G 



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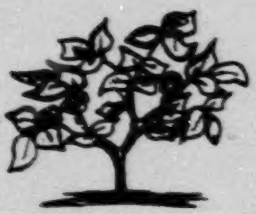
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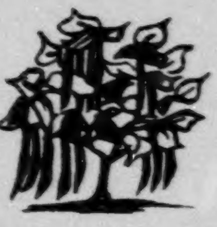
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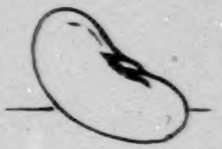
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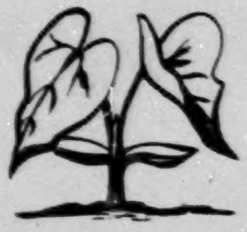
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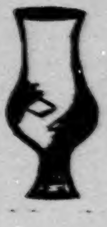

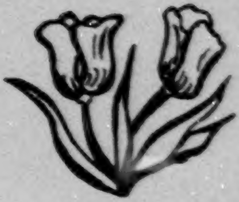

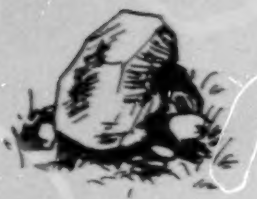

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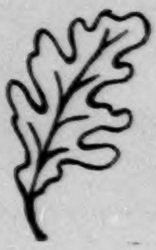
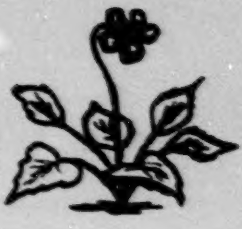
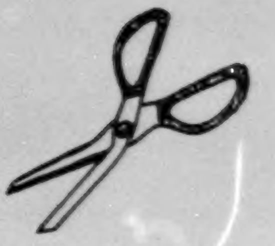
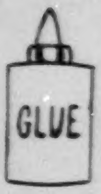


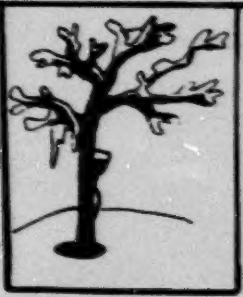


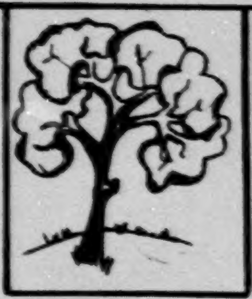


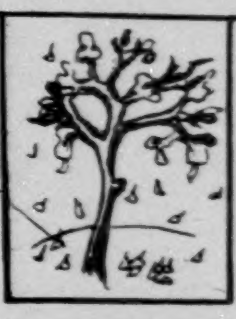


K

1 2 3 4







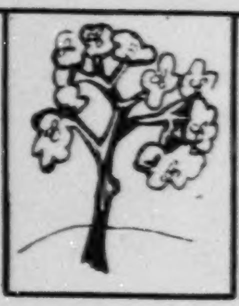


TABLE: 031S
AREA: Florist
TEST NO.: 031
KUDER-RICHARDSON 20: .740
KUDER-RICHARDSON 21: .695

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	B	.047	.383	.291	11.8
2.	C	.296	.969	.572	69.4
3.	A	.289	.965	.555	68.2
4.	A	.319	.203	.106	12.3
5.	D	.704	.861	.422	52.0
6.	D	.140	.233	.174	9.3
7.	C	.316	.853	.413	49.3
8.	B	.143	.413	.268	23.4
9.	C	.528	.911	.493	61.9
10.	A	.329	.869	.443	51.7
11.	C	.163	.827	.487	41.2
12.	D	.133	.800	.510	37.6
13.	A	.066	.637	.421	20.0
14.	B	.103	.707	.408	27.1
15.	C	.262	.780	.400	41.0
16.	B	.193	.649	.304	28.1
17.	D	.233	.884	.550	50.6
18.	B	.266	.905	.539	54.1
19.	C	.159	.770	.416	36.4
20.	A	.136	.780	.479	36.4
21.					
22.					
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TABLE: 031A
AREA: Florist
TEST NO.: 031
KUDER-RICHARDSON 20: .690
KUDER-RICHARDSON 21: .618

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	B	.086	.707	.428	28.6
2.	C	.190	.218	.212	11.9
3.	A	.224	.661	.369	33.3
4.	A	.603	.696	.179	38.1
5.	D	.690	.780	.332	45.2
6.	D	.190	.426	.378	26.2
7.	C	.328	.661	.238	33.3
8.	B	.155	.294	.079	7.1
9.	C	.672	.905	.396	60.7
10.	A	.466	.413	.216	31.0
11.	C	.155	.770	.304	35.7
12.	D	.207	.827	.500	42.9
13.	A	.121	.707	.320	28.6
14.	B	.121	.770	.403	35.7
15.	C	.328	.924	.527	63.1
16.	B	.431	.998	.600	84.5
17.	D	.397	.000	.684	92.9
18.	B	.345	.988	.623	78.6
19.	C	.155	.827	.379	42.9
20.	A	.103	.770	.466	35.7
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FARM EQUIPMENT MECHANIC

Teacher Instruction: Each item should be read aloud twice to the students. Allow appropriate time for marking. Periodically check to see that students understood the directions.

First Page Instructions: Read Aloud

"Draw a line from each picture in the left column to the correct name in the boxes in the right column. Draw a line for pictures A,B,C,D and E."

Second Page Instructions: Read Aloud

F. Put an X on the picture of a tool that is not likely to be found in the farm mechanic's tool box.

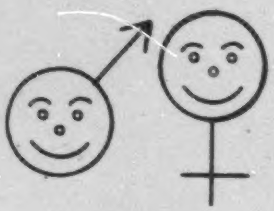
G. Put an X on the picture of the tool that is most likely to be found in the farm mechanic's tool box.

H. For each of the four pictures decide if it is considered mechanical or not. Put a Y in the box if "Yes" it is mechanical. Put a N in the box if "No" it is not mechanical.

Third Page Instructions. Read Aloud

"Match each item in the left column with the name of the item in the right column. Draw a line between the word and the picture."

NAME ______________________________



BOY GIRL

GRADE (K) (1) (2) (3)

WHERE YOU LIVE

CITY

TOWN

COUNTRY

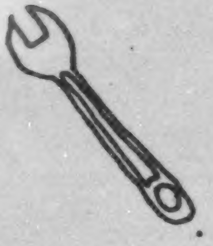
TEACHER'S NAME

____

A (YES) (?) (NO)

FARM EQUIPMENT MECHANIC

A



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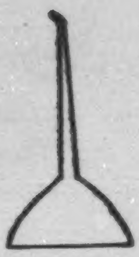

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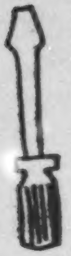

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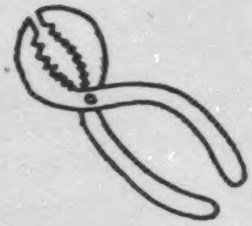

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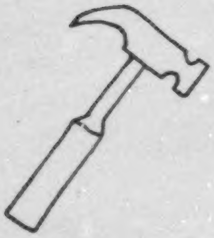


PLIERS

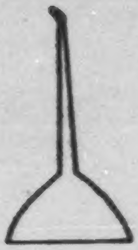
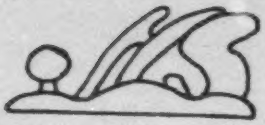
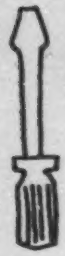
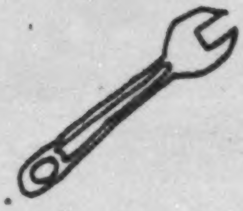
SCREW DRIVER

OIL CAN

HAMMER

WRENCH

F

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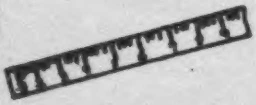
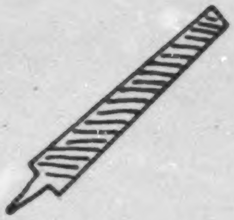
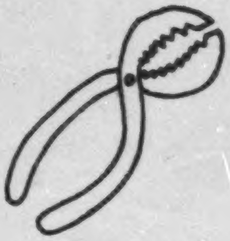
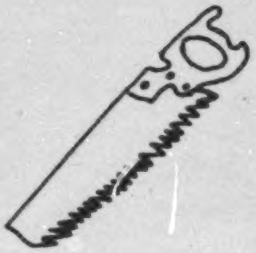

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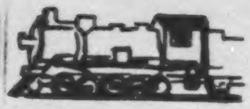
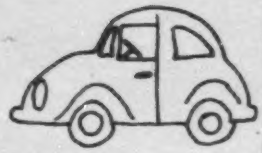
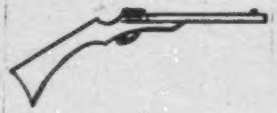
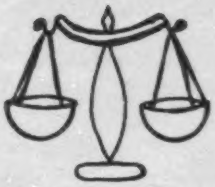
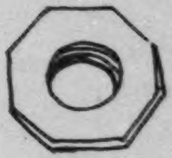





☐ ☐ ☐ ☐

I



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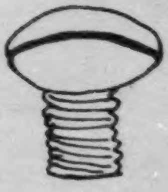

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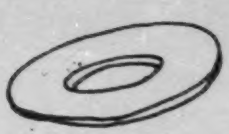

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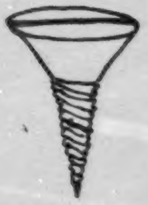

SCREW

BOLT

NUT

WASHER

TABLE: 041S
AREA: Farm Equipment Mechanics
TEST NO.: 041
KUDER-RICHARDSON 20: .555
KUDER-RICHARDSON 21: .316

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	E	.050	.426	.345	14.3
2.	C	.000	.000	.000	00.0
3.	B	.025	.000	.060	00.1
4.	A	.058	.426	.328	14.3
5.	D	.017	.249	.135	4.8
6.	B	.142	.454	.264	19.2
7.	C	.233	.861	.481	45.2
8.	A	.033	.294	.113	7.1
9.	A	.042	.294	.156	7.1
10.	A	.817	.426	.315	20.2
11.	B	.050	.233	.215	7.3
12.	C	.258	.935	.637	59.5
13.	B	.400	.988	.641	76.2
14.	D	.133	.790	.433	35.7
15.	A	.417	.990	.672	78.7
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17.					
18.					
19.					
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TABLE: 041A
AREA: Farm Equipment Mechanics
TEST NO.: 041
KUDER-RICHARDSON 20: .507
KUDER-RICHARDSON 21: .212

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	E	.100	.637	.523	22.2
2.	C	.033	.000	.004	00.0
3.	B	.100	.353	.135	11.1
4.	A	.133	.740	.634	33.3
5.	D	.000	.000	.000	00.0
6.	B	.100	.353	.006	11.1
7.	C	.167	.740	.320	33.3
8.	A	.233	.637	.148	22.2
9.	A	.067	.637	.471	22.2
10.	A	.933	.440	.228	14.3
11.	B	.067	.353	.393	11.1
12.	C	.067	.637	.471	22.2
13.	B	.467	.000	.716	100.0
14.	D	.100	.637	.135	22.2
15.	A	.400	----	.687	88.9
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FOREST TECHNICIAN

Teacher Instructions: Each item should be read aloud twice to the students. Allow appropriate time for marking. Periodically check to see that students understood the directions.

First Page Instructions: Read Aloud

"There are six questions on this page: A,B,C,D,E, and F. The questions are about the Forest Technician and his work.

Each question has four circles with a letter for each possible answer. The letter in the circle tells you which word to look at in the right hand column.

The teacher will read a question to you. Look for the four answers. Color in the circle with the best answer.

Here is an example question:

A. "A word that means standing trees and rhymes with member."

Look at the four possible answers. They are:

(A) timber, (B) pulp, (C) hill, and (D) forest

Mark your answer

The correct answer is "A" timber. Color in the circle with the letter "A".

B. The word that means a single cut tree and rhymes with jog.

C. A place where wood is sawed and rhymes with gill.

D. A product from a cut tree and rhymes with should.

E. A word that identifies the insides of a tree and rhymes with gulp.

F. A word that means burning and rhymes with tires.

Second Page Instructions: Read Aloud

"Answer the next three questions by coloring in the "yes", "?", or "no".

G. A cruising stick is used to measure trees.

H. I would like to be a Forest Technician.

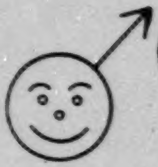
I. A Forest Technician has an important job to do.

J., K., L. Identify each leaf in the left column with the picture that describes it best from the four pictures in the right hand column. Draw a line from the leaf to the picture describing it best.

Third Page Instructions: Read Aloud

M., N., O., P., Q., R. Identify the primary and secondary uses of wood. Do this by coloring in the best answer for each item. Color in the "P" if it is primary, color in the "S" if it is secondary, or color in the "?" if you do not know.

NAME ____________________


BOY

GIRL

GRADE K 1 2 3

WHERE YOU LIVE

CITY

TOWN

COUNTRY

TEACHER'S NAME

____

A YES ? NO

FOREST TECHNICIAN

A	Ⓐ	Ⓑ	Ⓒ	Ⓓ
B	Ⓓ	Ⓔ	Ⓕ	Ⓖ
C	Ⓒ	Ⓓ	Ⓔ	Ⓕ
D	Ⓖ	Ⓗ	Ⓘ	Ⓙ
E	Ⓑ	Ⓒ	Ⓓ	Ⓔ
F	Ⓖ	Ⓗ	Ⓘ	Ⓙ

A. TIMBER

B. PULP

C. HILL

D. FOREST

E. MILL

F. LOG

G. FOG

H. FIRES

I. WOULD

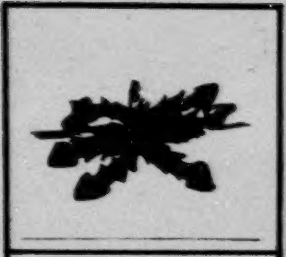
J. WOOD

G YES ? NO

H YES ? NO

I YES ? NO

J



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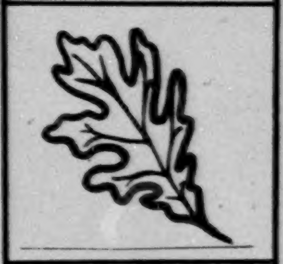

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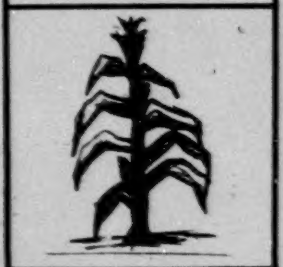

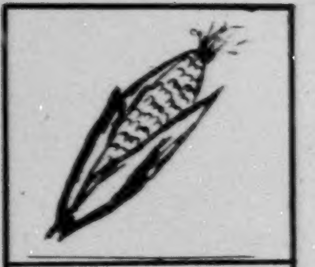

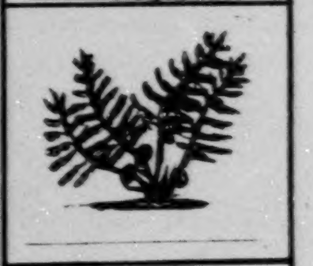

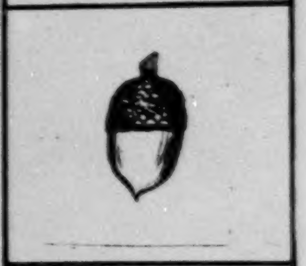

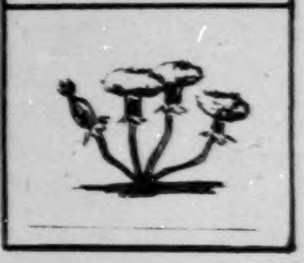

M	(P)	(S)	(?)	.....	FURNITURE
N	(P)	(S)	(?)	.....	TAR
O	(P)	(S)	(?)	.....	TURPENTINE
P	(P)	(S)	(?)	.....	PAPER
Q	(P)	(S)	(?)	.....	LUMBER
R	(P)	(S)	(?)	.....	FIREWOOD

TABLE: 051S
AREA: Forest Technician
TEST NO.: 051
KUDER-RICHARDSON 20: .376
KUDER-RICHARDSON 21: -.041

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	A	.012	.218	.242	4.0
2.	C	.063	.440	.273	16.0
3.	C	.212	.844	.464	44.0
4.	D	.212	.869	.540	48.0
5.	A	.050	.440	.493	16.0
6.	B	.100	.685	.406	24.0
7.	A	.537	.918	.461	63.2
8.	A	.950	-.309	-.208	-8.0
9.	A	.237	.790	.426	43.7
10.	D	.225	.750	.340	35.8
11.	C	.237	.411	.236	23.5
12.	A	.075	.440	.282	16.0
13.	B	.800	.454	.261	25.5
14.	A	.850	.016	-.085	0.8
15.	B	.550	.397	.204	26.5
16.	B	.787	.094	.098	4.8
17.	A	.300	.898	.526	55.8
18.	A	.475	.413	.278	30.7
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TABLE: 051A
AREA: Forest Technician
TEST NO.: 051
KUDER-RICHARDSON 20: .360
KUDER-RICHARDSON 21: -.121

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	A	.020	.279	.174	6.7
2.	C	.040	.279	.140	6.7
3.	C	.210	.482	.287	26.2
4.	D	.170	.482	.295	23.1
5.	A	.040	.203	.249	6.4
6.	B	.090	.482	.383	23.1
7.	A	.610	.685	.286	48.1
8.	A	.780	.454	.256	26.0
9.	A	.100	.495	.192	20.0
10.	D	.110	.482	.343	23.1
11.	C	.110	.536	.394	23.3
12.	A	.020	.279	.212	6.7
13.	B	.730	-.031	.041	-1.9
14.	A	.750	.454	.284	26.0
15.	B	.500	.649	.385	45.0
16.	B	.900	.264	.200	11.2
17.	A	.210	.891	.641	66.7
18.	A	.330	.770	.457	52.9
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AFFECTIVE TEST
Grades 4-6

READ ALL THE INSTRUCTIONS ON THIS PAGE BEFORE YOU START MARKING YOUR ANSWERS.

Please answer each question by filling in the spaces on the score sheet given to you. Be sure to fill in each space completely as you mark your answer. USE PENCIL ONLY. Be sure to erase completely when you change your answers. For each sentence mark only one answer. Please do not write on the question sheets.

Think about each sentence carefully. Do you agree or disagree with the sentence, or don't you know how you feel about it?

1. If you agree or "go along with" the sentence, darken in the space marked with an "A" on the score sheet.
2. If you don't know how you feel about the sentence, darken in the space marked with a "B" on the score sheet.
3. If you do not agree with or "do not go along with" the sentence, darken in the space marked with a "C" on the score sheet.

1. People stop learning after they finish school.

2. Some jobs have certain words that a worker needs to learn.

3. Workers depend on each other for doing their jobs.

4. Work means earning money.

5. I like to work in a group

5. Other people's ideas help me in choosing a career.

7. Some jobs are alot alike.

8. I can learn about jobs on weekends and during summer vacation.

9. It is fun to do all parts of a job.

10. Once a person learns to do a job he does it all his life.

11. If I don't get paid, I won't work.

12. A person's mind can grow.

13. What a person believes in is important to his career.

14. I work hard when I know I will get a reward.

15. I do not have to like the people I work with.

16. What I learn out of school is not very important.

17. I am different from my friends.

18. Rules and regulations are important in only a few jobs.

19. People are similar in physical appearance regardless of their culture.

20. My parents want me to be in a certain career when I grow older.

21. A baby's world is small compared to a teenagers'.

22. Being happy is not important in choosing a career.

23. People learn all their lives.

24. I can make many decisions for myself.

25. Money is only one kind of pay for work.

26. People are different mostly in looks.

27. The boss needs to treat his employees fairly.

28. Training is important in some jobs.

29. Both men and women work.

30. I learn most about jobs at school.

31. Special tools are needed for some jobs.

32. People do only one job in their life.

33. Working in a gorup is helpful to each person in the group.

34. Being able to read, write, and count are important in most jobs.

35. Some people do not do their jobs well because they do not know how to get along with others.

36. It is important to know how to find answers to our questions.

37. What I think about things is important to my work.

38. Sometimes you can tell what kind of jobs people do by the way they dress.

39. People need to know different things when they work at different jobs.

40. People working together need to understand each other.

41. Employees need to treat their boss fairly.

42. Knowing how to count and use numbers are important in many jobs.

43. If I work hard I will be a success.

44. I would rather do something by myself than with a group.

45. It is important for me to listen to directions.

46. I only like to do things my friends do.

47. I want to do more than one kind of job in my life.

48. I may change my mind about careers.

49. My success depends on my intelligence.

50. My hobbies have an effect on what career I choose.

51. I cannot do everything, so I must make decisions.

52. When I am in a hurry my homework isn't as well done as when I am not in a hurry.

53. What I did yesterday has little to do with what I do today.

54. I know what job I would like to do when I grow older.

55. Going to school is important for getting a job.

56. The national economy influences my career choice.

57. People should be allowed to change their minds.

58. People are different mostly in intelligence.

59. Some jobs require special skills.

60. Getting paid can be done through ways other than money.

61. People change where they live often.

62. Most people enjoy working.

63. People who work in groups get more done.

64. Many jobs are related.

65. My parents encourage me.

66. I ask for other people's opinions.

67. Special locations are needed for some jobs.

68. I try to find several ways of doing things.

69. Special training is required for some jobs.

70. People learn outside of school.

TABLE: 062, 072, 082S
AREA: Affective 4 - 6
TEST NO.: 062, 072, 082
KUDER-RICHARDSON 20: .789
KUDER-RICHARDSON 21: .702

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	C	.091	.353	.123	9.1
2.	A	.205	.063	.115	2.8
3.	A	.545	.729	.279	40.6
4.	B	.773	-.661	-.346	-28.7
5.	A	.227	.750	.406	37.8
6.	A	.682	.685	.196	35.7
7.	A	.318	.869	.279	45.5
8.	A	.318	.956	.631	63.6
9.	C	.705	.218	.167	12.6
10.	C	.295	.750	.441	37.8
11.	C	.477	.818	.399	48.3
12.	A	.205	.625	.318	31.5
13.	A	.295	.827	.379	46.9
14.	B	.909	.000	-.024	00.0
15.	A	.750	-.368	-.184	-21.0
16.	C	.205	.750	.467	37.8
17.	A	.455	.637	.291	32.9
18.	C	.182	.809	.567	36.4
19.	A	.795	-.233	-.052	-13.3
20.	B	.886	-.637	-.144	-18.2
21.	A	.295	.233	.040	13.3
22.	C	.273	.397	.181	19.6
23.	A	.159	.918	.544	54.5
24.	A	.250	.941	.570	65.0
25.	A	.523	.016	.037	00.7
26.	C	.500	.891	.350	58.7
27.	A	.182	.397	.347	19.6
28.	A	.205	.368	.318	22.4
29.	A	.159	.661	.458	28.7
30.	B	.773	-.233	-.052	-11.9

TABLE 062, 072, 082S
AREA Affective 4 - 6
TEST NO. 062, 072, 082

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	A	.023	.353	.451	9.1
2.	C	.136	.637	.163	18.2
3.	A	.318	.729	.265	39.2
4.	A	.023	.353	.451	9.1
5.	A	.273	.891	.556	55.9
6.	A	.136	.353	.191	9.1
7.	A	.250	.750	.293	37.8
8.	A	.114	.249	.243	10.5
9.	A	.045	.637	.478	18.2
0.	A	.205	.233	.295	11.9
1.	A	.114	.729	.472	27.3
2.	A	.114	.809	.532	36.4
3.	B	.682	-.078	.006	-4.2
4.	B	.636	-.094	-.129	-5.6
5.	A	.000	.000	.000	00.0
6.	C	.182	.809	.535	36.4
7.	A	.318	.750	.265	37.8
8.	A	.182	.809	.338	36.4
9.	B	.750	-.078	-.169	-4.2
0.	B	.841	-.047	.051	-1.4
.	A	.182	.397	.232	19.6
.	A	.227	.918	.519	54.5
.	C	.682	.454	.243	28.0
.	A	.250	-.063	.046	-3.5
.	A	.068	.729	.524	27.3
.	A	.705	.294	.119	18.9
.	A	.023	.353	.451	9.1
.	B	.682	.187	.121	11.2
.	A	.114	.869	.601	45.5
.	A	.159	.869	.423	45.5

TABLE 062, 072, 082S
AREA Affective 4 - 6
TEST NO. 062, 072, 082

Item	Correct Option	Relative Diffi-culty	Phi Coeff-icient	Point Biserial Coefficient	Discrim-ination Index
1.	B	.705	-.233	-.027	-13.3
2.	A	.455	.110	.094	7.0
3.	A	.636	.264	.218	17.5
4.	A	.295	.637	.172	30.1
5.	A	.364	.976	.457	74.1
6.	A	.523	.998	.536	84.6
7.	A	.091	.637	.112	18.2
8.	A	.318	.941	.468	65.0
9.	A	.091	.809	.671	36.4
0.	A	.159	.869	.441	45.5
1.					
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ENVIRONMENTAL TECHNICIAN (NOISE)

Answer the following questions by darkening in the space below the letter on the answer sheet with the best answer.

1. Noise is defined as:

   A. sounds created by humans
   B. sounds not desirable for growth or life of living plants and animals
   C. all other sounds that are not considered music
   D. created mainly by machines or non-living things

2. A decibel measures:

   A. tones
   B. notes
   C. music
   D. sound

3. Patch means:

   A. highness or lowness of a sound
   B. loudness or intensity of a sound
   C. fullness or volume of a sound
   D. shrillness or mellowness of a sound

4. Which of the following would probably be most annoying to listen to for a period of 5 minutes?

   A. electric blender
   B. radio on F.M. station
   C. electric shaver
   D. church bells

5. Which of the following would reduce the amount of noise best in the home?

   A. shutting the door to the noisy room
   B. putting down carpeting in noisy area
   C. putting cork under and around noisy appliances
   D. using appliances during "off hours"

For the next section of questions use the following key:

(A) true
(B) false
(C) I don't know

6. Technology creates new sounds.

7. Sounds added to each other often cause an undesirable sound level.

8. A decibel measures sound levels.

9. Sounds are noises.

10. Landscaping is considered one way of planning for noise control.

11. Noises can cause annoyances.

12. Sounds can cause annoyances.

13. The Environmental Protection Agency has the job of monitoring sound levels to determine safety.

14. Zoning usually does not help in controlling noise in cities.

15. Music can be considered sound or noise.

16. One major problem in farm safety is tractor noise.

17. Misuse of sounds can affect our mental and physical beings.

18. A child may become hyperactive when his homelife becomes too noisy.

19. Noise pollution is a health hazard.

20. Carpeting a noisy area can reduce the noise level.

TABLE: 061A
AREA: Environmental Technician (Noise)
TEST NO.: 061
KUDER-RICHARDSON 20: .764
KUDER-RICHARDSON 21: .709

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	B	.799	.495	.248	25.9
2.	D	.597	.522	.255	33.5
3.	A	.617	.685	.378	47.3
4.	A	.584	.309	.186	19.9
5.	B	.799	.324	.178	16.8
6.	A	.617	.661	.374	45.0
7.	A	.318	.411	.269	25.6
8.	A	.662	.790	.508	56.2
9.	B	.747	.339	.146	19.4
10.	A	.636	.661	.405	45.0
11.	A	.175	.522	.354	28.6
12.	A	.364	.522	.279	34.4
13.	A	.617	.685	.423	47.2
14.	B	.727	.625	.353	40.1
15.	A	.182	.468	.315	26.3
16.	A	.364	.649	.382	43.7
17.	A	.448	.884	.543	68.4
18.	A	.344	.588	.368	37.2
19.	A	.383	.884	.515	68.6
20.	A	.506	.861	.539	66.1
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

LIVESTOCK PRODUCER

Answer the following by darkening in the appropriate spaces. Mark only one space for each answer.

1. Animal diseases can be eliminated or slowed down by:

   A. dusting
   B. spraying
   C. other fumigation methods
   D. any of the above

2. Based on the concept of genetics, the least important is:

   A. prediction based on animal size can be made
   B. predictions based on growth patterns can be made
   C. predictions concerning the sex of the unborn animal can be made
   D. none of the above

3. Which of the following is the most important aspect of livestock production?

   A. prenatal care
   B. postnatal care
   C. both prenatal and postnatal care
   D. first year of growth

4. An animal producer must keep many records. Which is the least important to the animal producer?

   A. supplies and services
   B. purchases and sales
   C. breeding and production
   D. planting and crop rotation

For the following questions mark:
(A) if you think the statement is true
(B) if you think it is false
(C) if you don't know

5. A livestock producer can work many places in the United States.

6. Livestock production shows how decisions are made in a chain-action manner.

7. Animal nutrition relates to the production industry.

8. Prenatal and postnatal care are important aspects of livestock production.

9. A calf needs to eat approximately eight pounds of feed for one pound of gain.

10. Buying meat "on the hoof" means buying the animal before slaughter.

11. Genes combine to determine certain characteristics in animals.

12. Lineage means the relationship through birth.

13. An animal producer must work long hours during certain times of the year.

14. Feed lot pollution control is a major concern of the Environmental Protection Agency.

15. Only the choicest animals come from the "feed lot".

16. The added costs to farmers can be seen in the added costs to consumers through commercial meat cuts.

TABLE: 071
AREA: Livestock Producer
TEST NO.: 071
KUDER-RICHARDSON 20: __________
KUDER-RICHARDSON 21: __________

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	D				
2.	D				
3.	D				
4.	D				
5.	A				
6.	A				
7.	A				
8.	A				
9.	A				
10.	A				
11.	A				
12.	A				
13.	A				
14.	A				
15.	B				
16.	A				
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

FEED SALES PERSONNEL

Answer the following questions by darkening in the space with the letter of the best answer.

1. Feed sales dealers can be located quickly by:

   A. dialing 0 for operator information
   B. asking farmers in the neighborhood
   C. looking in the yellow pages of the phone book
   D. checking the advertisement section of the Sunday paper

2. Who make the best feed sales people:

   A. men with much selling experience
   B. women who have a farm background
   C. men who have an agricultural background
   D. men or women who have an agricultural interest

3. Which of the following is of least importance to the feed sales person?

   A. English
   B. math
   C. speech
   D. geography

The next section deals with characteristics that would be desirable for a sales person. Use the following key to describe how desirable each item is:

(A) extremely desirable
(B) desirable
(C) not desirable at all
(D) I don't know

4. Meeting people

5. Liking all nationalities

6. Showing favoritism

7. Talking to strangers

8. Bargaining with purchases

9. Likes other's viewpoint

10. Likes to make speeches

11. Shows impartiality

12. Shows prejudice

13. Likes to talk

14. Enjoys animals

15. "soft hearted"

16. Likes to own things

17. Thinks things through

18. Is optimistic

19. Listens to others

20. Gives instructions

21. Speaks clearly

For the next section of questions use the following key:

(A) true
(B) false
(C) I don't know

22. Different brands of feed with the same mixture contents will cost different prices.

23. Parasites bother animals.

24. A feed sales person should be able to give clear, accurate instructions.

25. Feed sales dealers can be located by looking for addresses in the yellow pages.

26. "Sales pitch" means what you say and how you convince the buyer.

27. A feed sales person should not be tolerant with all his customers.

TABLE: 081S
AREA: Feed Sales Personnel
TEST NO.: 081
KUDER-RICHARDSON 20: .611
KUDER-RICHARDSON 21: .527

Item	Correct Option	Relative Diffi-culty	Phi Coeff-icient	Point Biserial Coefficient	Discrim-ination Index
1.	C	.256	.861	.407	46.2
2.	D	.651	.125	.125	7.7
3.	D	.535	.625	.230	30.8
4.	A	.395	.853	.415	53.8
5.	A	.488	.956	.548	69.2
6.	C	.442	.249	.214	15.4
7.	A	.767	.685	.441	30.8
8.	B	.767	.264	.099	15.4
9.	A	.581	.707	.267	38.5
10.	B	.698	.637	.207	30.8
11.	A	.814	.141	.263	7.7
12.	C	.628	.707	.398	38.5
13.	B	.535	-.780	-.375	-46.2
14.	A	.395	-.249	-.023	-15.4
15.	C	.581	.707	.216	38.5
16.	A	.721	.000	.027	00.0
17.	A	.302	.918	.546	61.5
18.	A	.907	.750	.685	30.8
19.	A	.349	.969	.562	69.2
20.	A	.721	.809	.434	38.5
21.	A	.372	.956	.461	69.2
22.	A	.186	.673	.286	23.1
23.	A	.465	.780	.350	46.2
24.	A	.116	.673	.298	23.1
25.	A	.302	.876	.478	53.8
26.	A	.419	.876	.383	53.8
27.	B	.767	.279	.396	15.4
28.					
29.					
30.					

AFFECTIVE TEST
GRADES 7-9

Answer the following questions by darkening in the appropriate spaces. Mark only one answer for each question.

1. Many occupations deal primarily with machines, equipment, or paper work, that is, they deal with things. In other occupations, however, the primary focus is on:

   A. employees
   B. superiors
   C. people
   D. other workers

2. As a group, people are very much:

   A. different
   B. alike
   C. it is difficult to say

3. Which of the following is not a desirable trait of an employee?

   A. indifference
   B. sense of humor
   C. tact
   D. initiative

4. When you are criticized by your superior, it is best to:

   A. act indifferent
   B. tell him to do it himself
   C. take it constructively
   D. shrug it off

5. Loyalty includes:

   A. working hours only
   B. both the time to and from work
   C. all the time
   D. just when you feel like it

6. To approach your job with enthusiasm, it is necessary to:

   A. fool the boss
   B. work long hours
   C. impress your co-workers
   D. be glad to be part of the team

7. A good way to get along in your new job is to:

   A. be a know-it-all
   B. be willing to learn
   C. show your co-workers how smart you are
   D. run to your boss with every question you have

8. Show that you are not afraid of work means to:

   A. work as hard as you can
   B. be willing to tackle any job assigned
   C. work harder than any of your co-workers

9. The people you can learn the most from are:

   A. always your bosses
   B. your best buddies
   C. those who show an interest in you
   D. the ones you eat lunch with

10. Plus doing the best work you can, it is important to :

   A. learn as much as you can about your company
   B. see what you can get on your boss
   C. keep up on the latest gossip
   D. be seen and not heard

For the next section of questions, mark the:

(A) if you agree with the statement
(B) if you are undecided about the statement
(C) if you disagree with the statement

11. Your pay is the only financial benefit your employer can provide.

12. Any ideas you get you should keep to yourself unless you will get paid for them.

13. Everyone makes mistakes.

14. People will act the same all the time.

15. Store rules and regulations are set up to hinder the employees.

16. Most employers don't care what you do with your own time.

17. Respect for authority is not necessary as long as you get the job done on time.

18. It is up to you to learn the job, not for the boss to train you.

19. People are different and the sooner you treat them this way, the better off you will be.

20. Regular attendance is of secondary importance to your boss.

For the next section of questions, decide how important each word or phrase is to you as you think about working at a job. Use this key in marking each answer:

(A) very important to me
(B) less important to me
(C) not important to me
(D) undecided

21. to look sharp

22. to be in a clique

23. to not show emotion

24. to discover the real problem

25. to learn from constructive criticism

26. to desire financial benefits

27. to investigate apparent problems

28. to emphasize human relations

29. to "politic"

30. to be industrious

31. to pass the buck

32. to practice "apple-polishing"

33. to show initiative

34. to follow instructions

35. to write

36. to read

37. to make choices

38. to change ideas

39. to cooperate with other people

40. to listen to others

41. to think about how others feel

42. to agree to do the job I say I will do

43. to show respect

44. to talk with others

45. to be enthusiastic

TABLE: 092, 102, 112, 122
AREA: Affective 7 - 9
TEST NO.: 092, 102, 112, 122
KUDER-RICHARDSON 20: ____________
KUDER-RICHARDSON 21: ____________

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	C				
2.	B				
3.	A				
4.	C				
5.	C				
6.	D				
7.	B				
8.	B				
9.	C				
10.	A				
11.	C				
12.	C				
13.	A				
14.	C				
15.	C				
16.	A				
17.	C				
18.	B				
19.	C				
20.	C				
21.	A				
22.	C				
23.	B				
24.	A				
25.	A				
26.	B				
27.	A				
28.	A				
29.	C				
30.	A				

TABLE: 092, 102, 112, 122
AREA: Affective 7 - 9
TEST NO.: 092, 102, 112, 112

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	C				
2.	C				
3.	A				
4.	A				
5.	A				
6.	A				
7.	A				
8.	A				
9.	A				
0.	A				
1.	A				
2.	A				
3.	A				
4.	A				
5.	A				
6.					
7.					
8.					
9.					
0.					

AGRICULTURAL PRODUCTS (FOOD PROCESSING)

Answer the following questions by darkening in the space with the letter of the best answer..

1. Which processing method is used most in food preservation:

    A. salting
    B. drying
    C. smoking
    D. canning

2. Which processing method is used least in food preservation:

    A. freezing
    B. canning
    C. smoking
    D. drying

3. Which of the following school subjects is least important to the food processer.

    A. chemistry
    B. science
    C. biology
    D. home economics

4. Which of the following never includes a grain product:

    A. macaroni
    B. balogna
    C. sausage
    D. cereal

5. Which is not a fiber:

   A. wool
   B. silk
   C. cotton
   D. fur

6. Nylon is an example of:

   A. a natural fiber
   B. a synthetic fiber
   C. a non-fiber
   D. any of the above

7. Migrant workers are usually associated with which of the following processing industries:

   A. dairy
   B. meat
   C. fruit, vegetables, and nuts
   D. other non-food products

8. Which of the following is least important to the meat processing activities:

   A. curing
   B. peeling
   C. packaging and canning
   D. slaughtering

9. Which is the least desirable form of milk:

   A. dried
   B. evaporated
   C. fresh
   D. none of the above

For the next section of questions use the following key:

A. true
B. false
C. I don't know

10. The D.O.T. (Dictionary of Occupational Titles) describes jobs in many occupations.

11. The pasteurizing process was developed by Louis Pasteur.

12. Aging is an important part of cheese making.

13. Carcass means the animal "on foot".

14. U.S.D.A. inspectors give meat grades such as prime, choice, good, etc.

15. Taste, color, and texture are important things to consider when comparing food preservation methods.

TABLE: 091
AREA: Agricultural Products (Food Processing)
TEST NO.: 091
KUDER-RICHARDSON 20: ______
KUDER-RICHARDSON 21: ______

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	D				
2.	D				
3.	B				
4.	C				
5.	D				
6.	B				
7.	C				
8.	B				
9.	D				
10.	A				
11.	A				
12.	A				
13.	B				
14.	B				
15.	A				
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

ENVIRONMENTAL PROTECTION

Answer the following questions by darkening in the space with the letter of the best answer.

1. Environmental protection deals with which of the following:

   A. water
   B. solid wastes
   C. air, noise, and radiation
   D. all of the above

2. Tractor noise has proven to be harmful to a farmer's health over a period of time because it can cause:

   A. hypertension
   B. deafness
   C. memory loss
   D. none of the above

2. Which of the following community trash disposal methods is illegal:

   A. open dump
   B. incineration
   C. land fill
   D. none of the above

4. A decibel measures:

   A. tones
   B. notes
   C. music
   D. sound

5. Which of the following school subjects would be least important to the Environmental Protection worker:

   A. science
   B. math
   C. biology
   D. art

6. Solid waste is a problem for:

   A. manufacturers
   B. farmers
   C. city sanitation directors
   D. any of the above

7. Trash is basically a problem for which environmental protection area:

   A. air, noise, and radiation
   B. water
   C. solid waste
   D. none of the above

8. Environmental protection is a problem for:

   A. the community
   B. government (Federal, State and Local)
   C. individuals
   D. all of the above

For the next section of questions use the following key:

A. true
B. false
C. I don't know

9. Noise pollution is a health hazard.

10. An aqueduct is an ancient power system used by the Romans.

11. Monitoring is an important aspect of environmental control.

12. Noise means power.

13. Chemical pollution is a problem in environmental protection.

14. The D.O.T. (Dictionary of Occupational Titles) describes jobs in many occupations.

15. By using carpeting, noise in the home can be reduced.

16. Cork is known to be a poor sound absorber.

17. Environmental protection is necessary to humans whether they are at home, school, work or during their leisure.

18. Noises add to each other to cause annoyances.

19. The E.P.A. (Environmental Protection Agency) is an example of an agency which employees people to detect and monitor pollution of the air.

20. Too much noise around children can cause hypertension in children.

TABLE: 101
AREA: Environmental Protection
TEST NO.: 101
KUDER-RICHARDSON 20: ____________
KUDER-RICHARDSON 21: ____________

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	D				
2.	B				
3.	A				
4.	D				
5.	D				
6.	D				
7.	C				
8.	D				
9.	A				
10.	A				
11.	A				
12.	B				
13.	A				
14.	A				
15.	A				
16.	B				
17.	A				
18.	A				
19.	A				
20.	A				
21.					
22.					
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27.					
28.					
29.					
30.					

FORESTRY

Answer the following questions by darkening in the space with the letter of the best answer.

1. Which of the following is least important in forest production:

   A. planting
   B. cruising
   C. grafting
   D. felling

2. When is the best time for forest planting:

   A. between November and January
   B. between April and June
   C. before January
   D. between January and March

3. Which of the following school subjects would be least important to the forester:

   A. biology
   B. chemistry
   C. math
   D. geography

4. It takes about how many large trees to produce a ton of paper:

   A. 12
   B. 20
   C. 17
   D. 25

5. Which of the following best explains why trees get sick:

   A. fungi
   B. insects or diseases
   C. animal damage
   D. any of the above

6. Deciduous means:

   A. evergreen
   B. cone bearing
   C. neither A or B
   D. both A and B

For the next section of questions use the following key:

A. true
B. false
C. I don't know

7. The D.O.T. (Dictionary of Occupational Titles) describes jobs in many occupations.

8. Woods are different in color, wood grain, and hardness.

9. It is impossible to estimate the age of a forest without cutting down at least one tree.

10. An entomologist can tell you about tree insects.

11. Forest fire fighters wear special clothes.

12. Chewing gum is a by-product of the forestry industry.

13. Sassafras tea is made from the tree branch bark.

14. A cruising stick is used to measure trees.

For the next section of questions use the following key:

A. ... a primary use of wood
B. ... a secondary use of wood
C. ... I don't know

15. Furniture

16. Tar

17. Turpentine

18. Paper

19. Lumber

20. Firewood

TABLE: 111
AREA: Forestry
TEST NO.: 111
KUDER-RICHARDSON 20: ____________
KUDER-RICHARDSON 21: ____________

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	C				
2.	D				
3.	B				
4.	C				
5.	D				
6.	C				
7.	A				
8.	A				
9.	B				
10.	A				
11.	A				
12.	A				
13.	B				
14.	A				
15.	B				
16.	A				
17.	B				
18.	B				
19.	A				
20.	A				
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

ORNAMENTAL HORTICULTURE

Answer the following questions by darkening in the space with the letter of the best answer.

1. Which deals with the cultivation and management of ornamental and flowering plants?

   A. landscaping
   B. arboriculture
   C. nursery management
   D. floriculture

2. Which school subject would be least helpful if you were to work in Ornamental Horticulture?

   A. art
   B. home economics
   C. math
   D. foreign language

3. In flower arranging, needle holders, frogs, and floral clay all are :

   A. materials necessary in all flower arrangements
   B. containers for securing flowers in all arrangements
   C. items used to hold parts of an arrangement
   D. any of the above

4. Which of the following is least important in turf management?

   A. fungi control
   B. fertilization
   C. irrigation
   D. drainage control

5. Ornamental Horticulture does not deal with:

A. ground cover
B. woodland protection
C. aesthetics
D. trees and shrubs

6. Which of the following is of least importance to the turf manager of a golf course?

A. fairway
B. tee-off spot
C. rough
D. greens

For the next section of questions use the following key:

A. true
B. false
C. I don't know

7. Soil is an example of "plant-growing media".

8. Another name for lawn grasses is sod.

9. The D.O.T. (Dictionary of Occupational Titles) describes jobs in many occupations.

10. Seedling and sapling means the same thing.

11. Grafting is an important part of operation for the nurseryman.

12. Floral arrangements are designed with the season in mind.

13. Propagated means reproduced.

14. Japanese, Tropical, and English are three different kinds of gardens used in turf management.

15. Flora is a word meaning flower.

16. Turf is to land ... as ... surf is to water.

17. Floriculture deals mainly with growing and managing ornamental and flowering plants.

18. Arbor is a word meaning trees.

19. Selling is the most important part of a nurseryman's operation.

20. Sand is an example of "plant-growing media".

For the next section match the word with the best horticulture area. Use the following key for marking your answers.

A. arboriculture
B. floriculture
C. turf management
D. greenhouse operation and management

21. Shrubs

22. Growing media such as sand, peat and top soil

23. Floral wire

TABLE: 121
AREA: Ornamental Horticulture
TEST NO.: 121
KUDER-RICHARDSON 20: ____________
KUDER-RICHARDSON 21: ____________

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	D				
2.	D				
3.	C				
4.	A				
5.	B				
6.	C				
7.	A				
8.	A				
9.	A				
10.	B				
11.	A				
12.	A				
13.	A				
14.	B				
15.	A				
16.	A				
17.	A				
18.	A				
19.	B				
20.	A				
21.	C				
22.	D				
23.	B				
24.					
25.					
26.					
27.					
28.					
29.					
30.					

AREA: AGRICULTURAL PRODUCTION

Unit: Livestock Selection

Student Performance Objectives

The student should be able to:

1. From a group of livestock within one species, distinguish those animals that are superior according to a phenotypic or type selection process as determined by market demands.

2. Using the pedigrees for a small group of livestock within one species, distinguish the animals which appear to have superior inheritance for selected traits as determined by evidence presented on the ancestors.

3. Given the production testing data of a group of animals within one species, determine those animals that are superior based on the evaluation of their past or present performance.

4. From a group of animals within one species, distinguish those animals that are superior according to a combination of type, pedigree and production testing selection procedures to insure that those animals selected will meet their productive purpose efficiently and economically.

AREA: AGRICULTURAL PRODUCTION

Unit: Livestock Selection (1-1)

1. An extended record of an animals' ancestry is known as a:

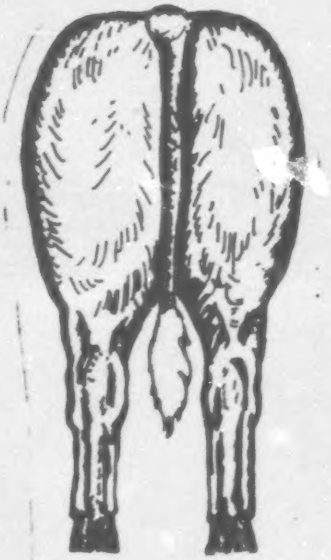
   A. progeny record
   B. performance record
   C. pedigree
   D. A and C above

2 The practice of selecting animals on the basis of the merit of their offspring is known as:

   A. performance testing
   B. progeny testing
   C. pedigree analysis
   D. B and C are correct

3. In the drawings below of beef steers of equal age and weight, which animal will most probably yield the greatest amount of primal cuts:

   A. 1
   B. 2
   C. 3



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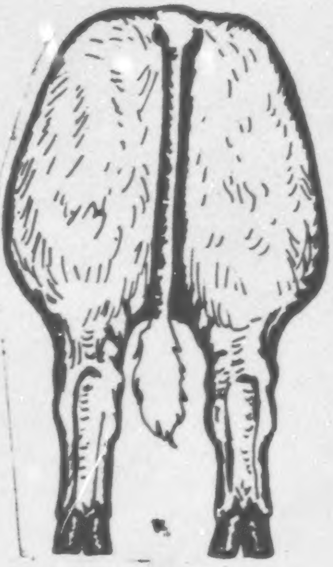

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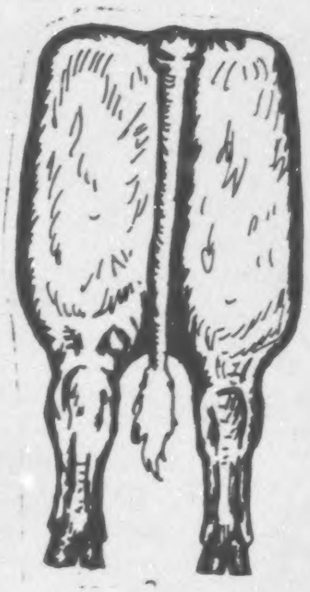


3

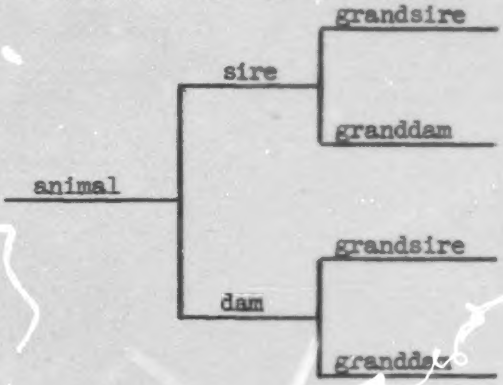
GO TO NEXT PAGE

4. The evaluation and selection of animals on the basis of their individual merit is known as:

   A. progeny testing
   B. pedigree analysis
   C. performance testing
   D. none of the above

5. In the pedigree shown below, the top half is known as the:

   A. maternal half
   B. production half
   C. paternal half
   D. none of the above



6. A disadvantage of testing offspring of animals is(are):

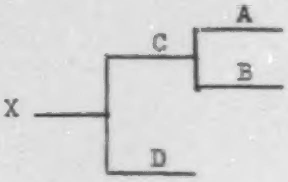
   A. only females can be adequately tested
   B. a longer generation interval is required to obtain test information
   C. culling can not be as intense
   D. B and C are correct

7. When selecting livestock based upon type or conformation, animals should be inspected from the:

   A. side
   B. rear
   C. front
   D. all of the above

8. The percent relationship of animal A to animal C in the pedigree shown below is:

   A. 50%
   B. 25%
   C. 12.5%
   D. 25%



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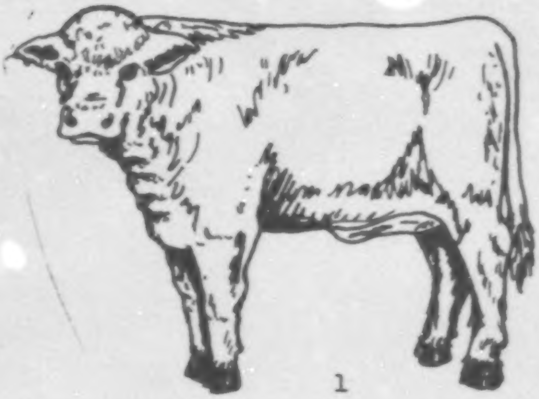
9. The figure in a dairy bull "sire proof" used to determine what improvement can be expected in the offspring of a progeny tested bull is called:

   A. performance expectancy
   B. predicted difference
   C. production determinant
   D. progeny increase

10. The beef steer in the diagrams below which most nearly approaches ideal conformation or type is:

   A. 1
   B. 2
   C. 3



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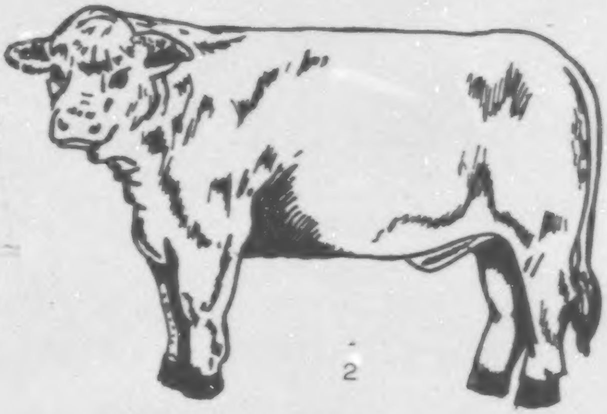

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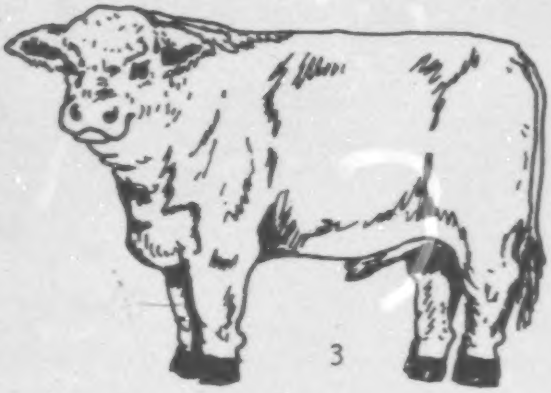


3

GO TO NEXT PAGE

11. A pedigree is especially helpful in selection when:

    A. selecting among young animals before their own performance is known
    B. selecting for characteristics that are measured late in life
    C. selecting for type and conformation
    D. A and B above

12. In order to accurately compare the milk records of a 3 year old cow and 7 year old cow who are out of the same sire, one must compare the information given for:

    A. herdsire daughters
    B. the herdmates
    C. the sires of these two cows
    D. B and C are both correct

13. The dairy cattle score card is commonly used to select cattle on the basis of type. Of the four major categories covered in the score card the two categories which account for the most points are:

    A. dairy character and mammary system
    B. general appearance and mammary system
    C. body capacity and dairy character
    D. dairy character and general appearance

14. Information on a pedigree which is of little use in selection is(are):

    A. the price received for animals
    B. show winnings of ancestors
    C. animals beyond the grandparents
    D. all of the above

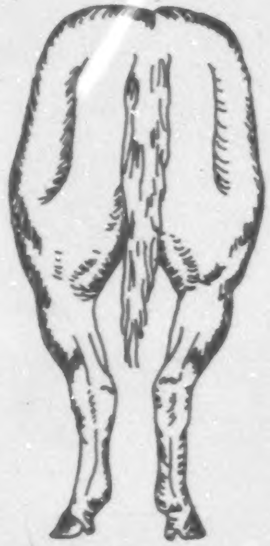
15. One should be cautious when using a sire proof developed with the records of:

    A. more than 50 daughters
    B. less than 50 daughters
    C. more than 100 daughters
    D. less than 150 daughters

GO TO NEXT PAGE

16. The conformation defect of horses shown in the drawing below is known as:

    A. splay foot
    B. sickle-hocked
    C. pigeon-toed
    D. bundy-legged



17. Which of the following factors should be used regardless of breed and method of production for selecting sheep:

    A. production record
    B. pedigree
    C. conformation
    D. all of the above

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18. A meat-type hog should generally have a back fat thickness of:

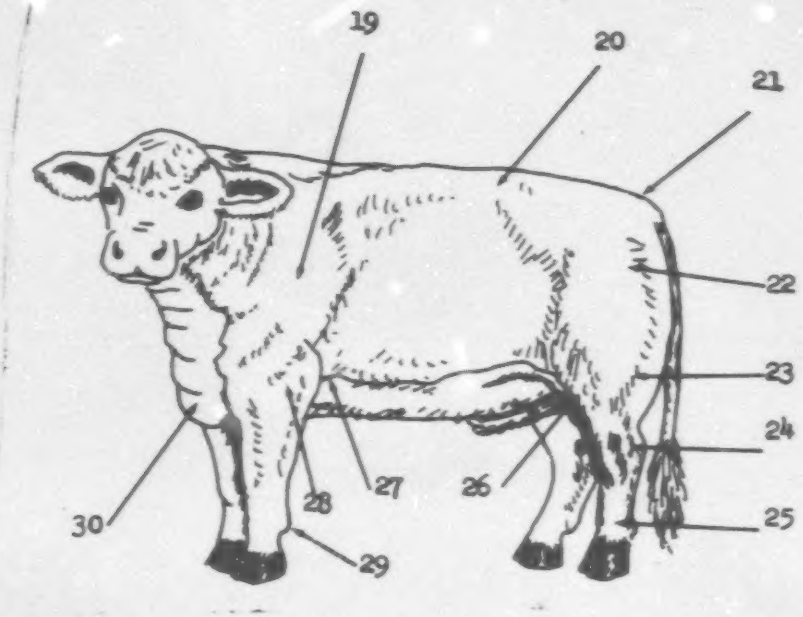
A. more than 1.5 inches
B. less than 2.0 inches
C. less than 1.5 inches
D. more than 2.0 inches

GO TO NEXT PAGE

Using the drawing below, match the letter of the parts listed in the column on the right with the proper number in the column on the left.

_____ 19.
_____ 20.
_____ 21.
_____ 22.
_____ 23.
_____ 24.
_____ 25.
_____ 26.
_____ 27.
_____ 28.
_____ 29.
_____ 30.

A. Fore Flank
B. Elbow
C. Round
D. Poll
E. Loin
F. Rear Flank
G. Tail Head
H. Stifle
I. Dew Claw
J. Belly
K. Brisket
L. Hock
M. Rump
N. Shoulder
O. Back
P. Pastern



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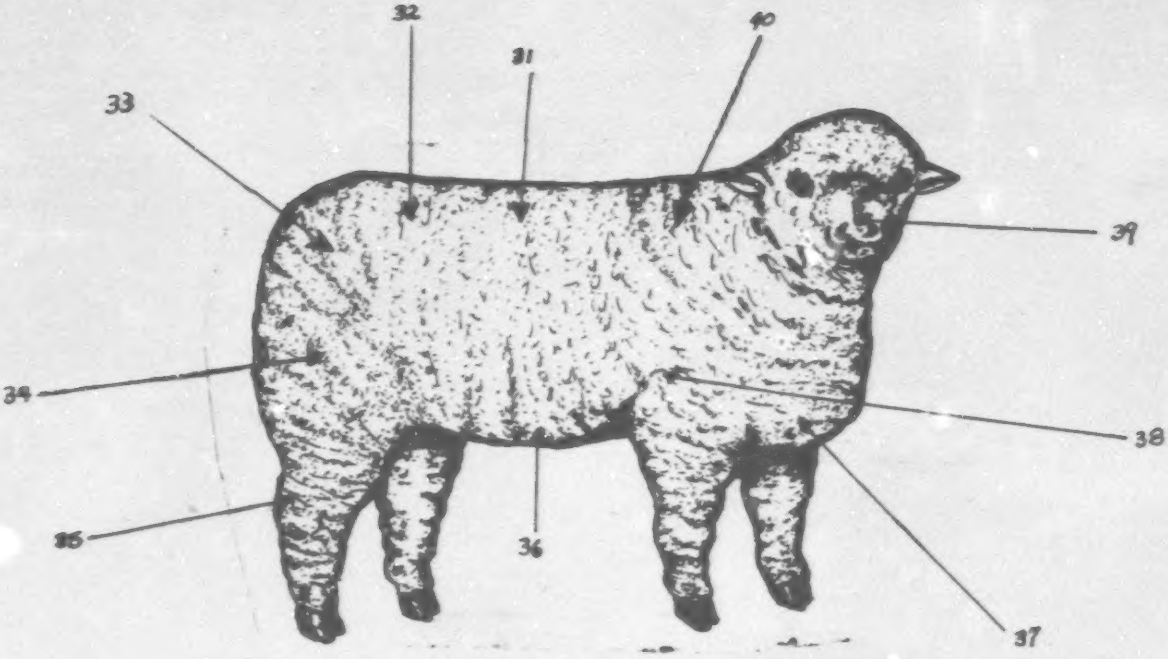
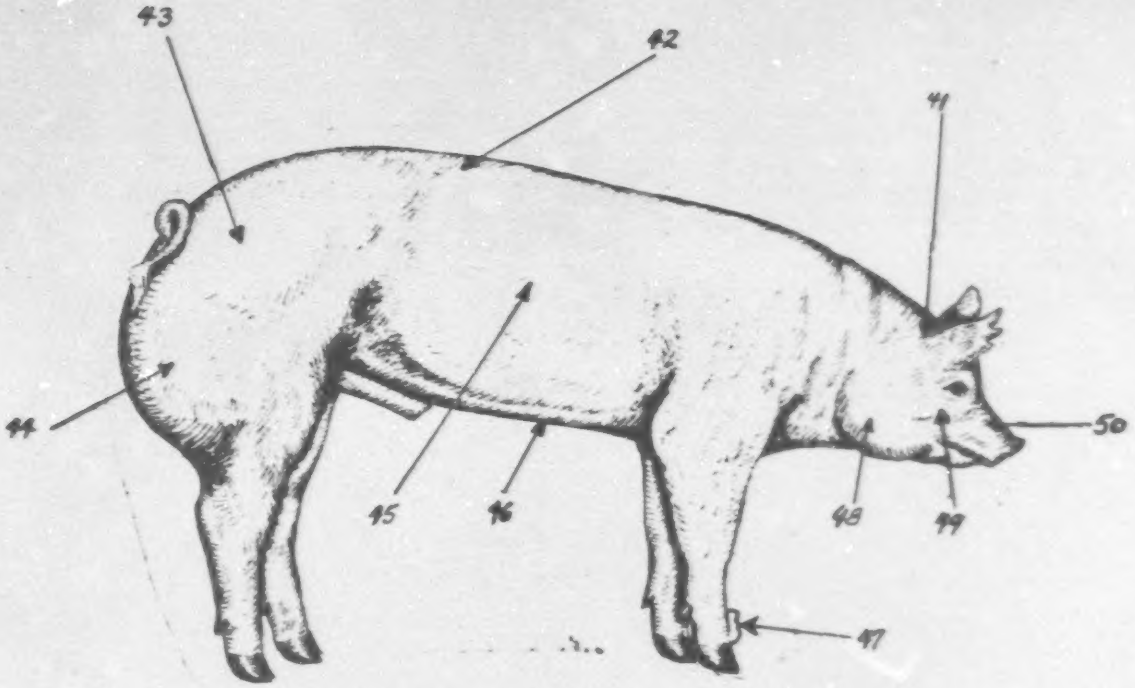


Using the drawing above, match the letter of the parts listed in the right hand column with the proper number in the column on the left.

______ 31.
______ 32.
______ 33.
______ 34.
______ 35.
______ 36.
______ 37.
______ 38.
______ 39.
______ 40.

A. Loin
B. Breast
C. Shoulder
D. Thigh
E. Rump
F. Face
G. Dock
H. Belly
I. Forehead
J. Back
K. Hock
L. Top of Shoulder

GO TO NEXT PAGE



Match the letter of the parts listed on the right with the proper number in the left column:

______ 41.
______ 42.
______ 43
______ 44.
______ 45
______ 46.
______ 47.
______ 48.
______ 49.
______ 50.

A. Jowl
B. Ham
C. Belly
D. Snout
E. Rump
F. Loin
G. Cheek
H. Side
I. Roll
J. Dew Claw
K. Pastern
L. Hind Quarter

END OF TEST

TABLE: 1-1 A
AREA: Agricultural Production
TEST NO.: 1-1
KUDER-RICHARDSON 20: .850
KUDER-RICHARDSON 21: .803

Item	Correct Option	Relative Diffi-culty	Phi Coeff-icient	Point Biserial Coefficient	Discrim-ination Index
1.	C	.296	.836	.435	48.7
2.	B	.685	.661	.229	33.8
3.	B	.750	-.673	-.234	-32.7
4.	C	.620	.780	.320	46.2
5.	C	.528	.750	.311	42.7
6.	D	.630	-.078	-.008	-4.1
7.	D	.148	.637	.328	26.0
8.	A	.444	.918	.441	61.6
9.	B	.648	.454	.281	27.6
10.	B	.343	.740	.232	39.1
11.	D	.583	.078	.082	4.8
12.	B	.778	-.016	-.093	-0.9
13.	B	.806	.047	.038	2.4
14.	D	.611	.339	.249	21.2
15.	B	.454	.718	.263	39.4
16.	B	.676	.696	.247	34.1
17.	D	.444	.718	.295	39.5
18.	C	.491	.836	.426	52.3
19.	A	.083	.637	.403	19.4
20.	A	.509	.750	.343	43.0
21.	A	.269	.876	.462	51.7
22.	A	.630	.233	.199	14.6
23.	A	.731	.094	.104	5.3
24.	A	.407	.911	.550	61.7
25.	A	.333	.969	.626	71.1
26.	A	.491	.844	.431	52.5
27.	A	.398	.946	.568	68.1
28.	A	.537	.844	.476	52.6
29.	A	.250	.946	.686	64.6
30.	A	.222	.924	.623	58.1

TABLE: 1-1 A
AREA: Agricultural Production
TEST NO.: 1-1

Item	Correct Option	Relative Diffi-culty	Phi Coeff-icient	Point Biserial Coefficient	Discrim-ination Index
1.	A	.657	.078	.075	5.1
2.	A	.833	.454	.304	24.7
3.	A	.824	.339	.218	18.3
4.	A	.306	.876	.566	55.1
5.	A	.176	.729	.448	32.4
6.	A	.083	.729	.581	29.0
7.	A	.130	.836	.625	41.9
8.	A	.259	.965	.620	67.7
9.	A	.130	.625	.386	22.7
0.	A	.185	.836	.447	41.9
1.	A	.287	.946	.568	64.6
2.	A	.185	.809	.434	42.0
3.	A	.426	.911	.512	61.9
4.	A	.120	.218	.173	10.0
5.	A	.074	.172	.107	6.7
6.	A	.093	.625	.480	22.7
7.	A	.306	.956	.641	67.8
8.	A	.176	.264	.199	13.3
9.	A	.250	.707	.393	35.9
0.	A	.102	.729	.503	29.0

AREA: AGRICULTURAL PRODUCTION

Unit: Breeding Systems

Student Performance Objectives

The student should be able to:

1. When given a certain species of animals, their productive purpose and a list of the various systems of breeding, determine the breeding method(s) he may use on these animals in order to obtain the most desirable type of offspring.

AREA: AGRICULTURAL PRODUCTION

Unit: Breeding Systems (1-2)

1. The mating of animals such as half-brother to half-sister and female to grandsire, in which the matings are usually directed toward keeping the offspring closely related to some highly desired ancestor is called:

   A. closebreeding
   B. linebreeding
   C. in-breeding
   D. outcrossing

2. Usually a linebreeding program is best accomplished through breeding to an outstanding:

   A. dam
   B. half-sister
   C. sire
   D. grand dam

3. Which of the following systems of breeding swine is relatively safe to use since it is unlikely that two such unrelated animals will carry the same "undesirable" genes and pass them on to the offspring?

   A. inbreeding
   B. purebreeding
   C. outcrossing
   D. crossbreeding

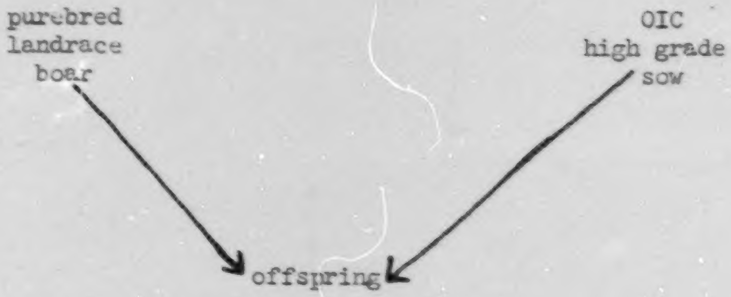
4. Which of the following systems of breeding is rarely practiced because lethals and other genetic abnormalities often appear with increased frequency?

   A. linebreeding
   B. purebreeding
   C. closebreeding
   D. grading up

GO TO NEXT PAGE

5. Identify the breeding system illustrated below:

A. cross breeding
B purebreeding
C. linebreeding
D. outcrossing


purebred
landrace
boar
OIC
high grade
sow
offspring

6. When animals are mated to close relatives this practice is called:

A. inbreeding
B. crossbreeding
C. outcrossing
D. linebreeding

7. When animals are inbred, the traits of fertility, growth rate and vigor tend to:

A. remain the same
B. increase
C. decrease
D. increase dramatically

GO TO NEXT PAGE

8. If one were to breed a Hereford bull to an Angus cow, the offspring would tend to show more growthiness which is because of:

   A. hybrid breeding
   B. hybrid vigor
   C. crisscrossing
   D. B & C above

9. The system of breeding where there are a minimum of different ancestors is called

   A. linebreeding
   B. closebreeding
   C. inbreeding
   D. outcrossing

10. The mating of animals that are members of the same breed but which show no relationship close up in the pedigree is known as:

    A. crossbreeding
    B. linebreeding
    C. inbreeding
    D. outcrossing

11. The system of breeding in which purebred sires of a given purebred are mated to native or grade females is called:

    A. grading up
    B. outcrossing
    C. closebreeding
    D. purebreeding

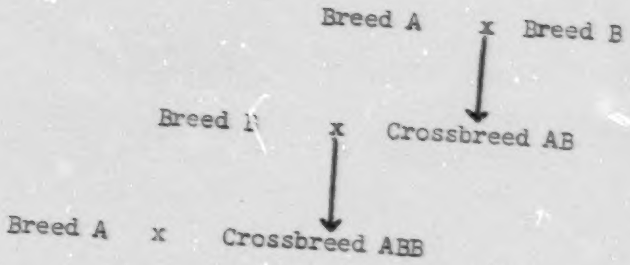
12. Crossbreeding is being conducted to:

    A. increase productivity over straightbreds
    B. produce commercial animals with a desired combination of traits not available in any one breed
    C. produce foundation stock for developing new breeds
    D. all of the above

GO TO NEXT PAGE

13. The crossbreeding system illustrated below is known as:

A. backcrossing
B. criss-crossing
C. three breed cross
D. A and B above



14. The system of breeding which especially decreases traits of reproduction and vigor of young animals such as growth rate, fertility and survival is called:

A. outcrossing
B. crossbreeding
C. purebreeding
D. inbreeding

15. A breeder may mate two animals which are both related to an outstanding animal. This is done to try to develop offspring which are similar to the one outstanding animal. This is called:

A. crossbreeding
B. linebreeding
C. inbreeding
D. back crossing

GO TO NEXT PAGE

16. The crossbreeding system shown below is called:

Breed A x Breed B
↓
Breed A x Crossbreed AB
↓
Crossbreed ABB

A. criss-crossing
B. backcrossing
C. outcrossing
D. two-breed cross

17. To get full advantage of hybrid vigor in crossbreeding beef cattle, the crossing needs to be up to the:

A. 4th breed of sires
B. 3rd breed of sires
C. 2nd breed of dams
D. 5th breed of sires

18. For the mating illustrated below, what is the amount of inbreeding which will result:

FULL BROTHER X SISTER

A. 25 percent
B. 12.5 percent
C. 50 percent
D. 6.25 percent

END OF TEST

TABLE: 1-2 S
AREA: Agricultural Production
TEST NO.: 1-2
KUDER-RICHARDSON 20: .395
KUDER-RICHARDSON 21: .332
N(tests) = 56

Item	Correct Option	Relative Diffi- culty	Phi Coeff- icient	Point Biserial Coefficient	Discrim- ination Index
1.	B	.589	-.233	-.001	-13.9
2.	C	.339	.911	.538	60.4
3.	C	.732	.454	.236	27.1
4.	C	.607	.729	.337	39.6
5.	A	.518	.353	.137	22.9
6.	A	.429	.397	.204	25.0
7.	C	.661	.869	.442	50.7
8.	B	.643	.844	.420	52.8
9.	B	.679	.905	.449	56.9
10.	D	.714	.685	.278	32.6
11.	A	.375	.898	.499	59.7
12.	D	.393	.110	.189	6.9
13.	B	.857	.649	.312	25.7
14.	D	.643	.661	.316	34.7
15.	B	.750	.800	.424	45.1
16.	B	.696	.800	.364	45.1
17.	B	.518	.353	.208	22.2
18.	A	.768	.047	.031	2.8
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

TABLE: 1-2 A
AREA: Agricultural Production
TEST NO.: 1-2
KUDER-RICHARDSON 20: .505
KUDER-RICHARDSON 21: .422

N(tests) = 58

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	B	.603	.110	.064	6.7
2.	C	.483	.935	.484	63.0
3.	C	.862	.353	.196	17.3
4.	C	.500	.836	.334	51.9
5.	A	.345	.884	.421	56.7
6.	A	.276	.827	.315	49.0
7.	C	.397	.930	.487	64.4
8.	B	.724	.930	.575	62.5
9.	B	.707	.869	.363	50.0
10.	D	.776	.031	.123	1.9
11.	A	.431	.884	.502	58.2
12.	D	.379	.440	.209	27.4
13.	B	.707	.383	.208	22.1
14.	D	.483	.965	.548	72.1
15.	B	.793	.249	.242	14.4
16.	B	.810	.279	.255	15.9
17.	B	.672	.426	.179	26.9
18.	A	.741	.454	.284	28.4
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

AREA: AGRICULTURAL PRODUCTION

Unit: Balancing Rations for Livestock

Student Performance Objectives:

The student should be able to:

1. When given a list containing several feeds, both homegrown and commercial and the cost of each along with a specific class of animals to feed, design a least-cost balanced ration for that group of animals so that it is appropriate for the animal's weight, sex, age and productive purpose.

AREA: AGRICULTURAL PRODUCTION

Unit: Balancing Rations for Livestock (1-3)

1. Which of the following factors is not important when formulating a ration for beef cattle?

   A. cost of feed ingredients
   B. animal needs
   C. length of feeding period
   D. composition, digestibility, and palatability

2. TDN stands for total digestible nutrients which means the sum of the digestible

   A. protein
   B. fiber
   C. nitrogen-free extract
   D. fat x 2.25
   E. all of the above

3. One of the following is not a source of Vitamin D

   A. sun-cured hay
   B. cod liver oil
   C. direct sunlight
   D. citrus fruits

4. Using the Pearson's Square Method, calculate the amount of corn (15% crude protein) and soybean meal (55% crude protein) that will be needed to furnish 15 pounds of mixture containing 25% crude protein

   Choose your answer here:

   A. 11.25 lbs. corn and 3.75 lbs. soybean meal
   B. 75% corn and 25% soybean meal
   C. 18.75 lbs. corn and 6.25 lbs. soybean meal
   D. cannot be determined due to lack of information

GO TO NEXT PAGE

5 Given the following information, determine the total digestible nutrients
Given: 7% protein
4% fiber
61.8% nitrogen-free extract
3.44% fat

Choose your answer here:

A. 80.5% TDN
B. 73.9% TDN
C. 76.2% TDN
D. none of the above

6. Using the information below, determine the percent total protein in a ration consisting of 600 pounds of corn and cob meal, 300 pounds ground oats, and 100 pounds of soybean oil meal.

A. 6.35 percent
B. 12.35 percent
C. 63.5 percent
D. 1.25 percent

Feedstuff	% of Total Protein
Corn & cob meal	7.5
Ground oats	12.0
Soybean meal	44.0

7. When fed free choice, a cow will usually eat 2 lbs. of good quality hay daily per 100 lbs. of body weight. Using this rule of thumb, how much hay per day would a 1350 lb. cow eat?

A. 34 pounds
B. 27 pounds
C. 28 pounds
D. 30 pounds

8. If corn silage contains 20% TDN, and if the yield of corn silage is 15 tons, what is the yield of TDN per acre?

A. 3 Tons
B. 4 Tons
C. 6 Tons
D. 5 Tons

9. Feedstuffs which are high in energy are called:

A. supplements
B. concentrates
C. roughages
D. B & C are correct

GO TO NEXT PAGE

10. If alfalfa hay sells for $46 per ton, how much will 2500 lbs. cost?

- A. $55.40
- B. $47.60
- C. $57.50
- D. $56.50

11. If fat contains 2.25 times as much energy per pound as carbohydrates, how many pounds of fat will be required to supply as much energy as 30 lbs. of carbohydrates.

- A. 67.50 pounds
- B. 13.3 pounds
- C. 57.55 pounds
- D. 64.50 pounds

12. One of the most common measures of useful energy in a feed is

- A. total digestible energy
- B. digestible protein
- C. crude protein
- D. total digestible nutrients

13. From the information given in the table below, how many pounds of TDN are required daily for a 1320 lb. lactating cow giving 30 lbs. of 4.5% fat milk per day?

- A. 11.56 pounds
- B. 20.0 pounds
- C. 9.56 pounds
- D. 2.38 pounds

Daily Nutrient Requirements

Maintenance-Lacating Cow

Body Wt.	DP (lb)	TDN (lb)
880	.54	6.8
990	.61	7.5
1110	.66	8.1
1210	.72	8.8
1320	.76	9.2
1430	.80	9.9
1540	.86	10.6

Daily nutrients required per pound of milk

% Fat	DP	TDN
2.5	.042	.26
3.0	.045	.28
3.5	.048	.31
4.5	.054	.36

GO TO NEXT PAGE

14. Corn contains 9.0% protein. 80% of the protein in corn is digestible. How many pounds of digestible protein are present in a ton of corn?

A. 124 pounds
B. 180 pounds
C. 144 pounds
D. 160 pounds

15. Given the information below determine which protein supplement is the best buy.

Soybean meal (44% CP)	$3.65	CWT
Linseed oil meal (35% CP)	$3.50	CWT

A. soybean meal
B. linseed oil meal
C. both have the same value per pound of protein

16. Feedstuffs which are high in fiber are called:

A. concentrates
B. roughages
C. protein supplements
D. none of the above

17. Many feedstuffs do not contain sufficient sodium and chlorine to meet the needs for these elements. In order to correct this problem, (select answer below) is usually added to the ration:

A. steamed bone meal
B. calcium chloride
C. salt
D. magnesium

18. A compound sometimes used as a protein supplement in cattle rations is:

A. oats
B. urea
C. alfalfa
D. salt

GO TO NEXT PAGE

19. The energy value of feeds can be expressed in units of energy called:

A. energy coefficient
B. crude protein
C. calories
D. energines

20. As forage plants (hays) become more mature, the levels of protein and TDN:

A. increase
B. decrease
C. stay about the same

21. In general, the protein content of animal products is ________ than that of plant protein supplements.

A. lower
B. higher

22. Urea is an organic compound that contains:

A. nitrogen
B. calcium
C. potassium
D. all of the above

23. If feed costs can be reduced $8 per cow per year by using urea, how much will the yearly feed bill be reduced in a herd of 270 cows?

A. $2920
B. $2160
C. $2060
D. none of the above

24. Corn contains 9.0% protein, and soybean meal contains 51.0% protein. What percent protein does a mixture of 1000 lbs of corn and 200 lbs, of soybean meal contain?

A. 16 percent
B. 60 percent
C. 30 percent
D. 23 percent

GO TO NEXT PAGE

25. The more water (moisture) that a feed contains, the more of that feed an animal must eat in order to maintain the same intake of:

A. TDN
B. concentrates
C. dry matter
D. A and C are both correct

END OF TEST

TABLE: 1-3 S
AREA: Agricultural Production
TEST NO.: 1-3
KUDER-RICHARDSON 20: .670
KUDER-RICHARDSON 21: .606

N(tests) = 160

Item	Correct Option	Relative Diffi-culty	Phi Coeff-icient	Point Biserial Coefficient	Discrim-ination Index
1.	C	.403	.836	.493	51.4
2.	B	.431	.918	.455	60.7
3.	A	.708	.673	.280	32.4
4.	B	.097	.696	.374	26.1
5.	D	.514	.637	.387	33.0
6.	D	.181	-.016	.061	-0.8
7.	D	.514	.930	.498	64.6
8.	C	.403	.661	.266	34.0
9.	B	.361	.951	.570	65.2
10.	B	.556	.637	.325	33.0
11.	B	.653	.187	.123	9.9
12.	C	.264	.413	.318	29.6
13.	D	.556	-.324	-.067	-20.4
14.	A	.347	.718	.423	38.3
15.	B	.569	.790	.342	46.4
16.	A	.514	.440	.201	28.9
17.	B	.194	.637	.466	29.8
18.	B	.444	.750	.348	42.5
19.	C	.472	.790	.284	46.8
20.	C	.125	.413	.368	17.4
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

TABLE: 1-3 A
AREA: Agricultural Production
TEST NO.: I-3
KUDER-RICHARDSON 20: .216
KUDER-RICHARDSON 21: .152

N(tests) = 70

Item	Correct Option	Relative Diffi-culty	Phi Coeff-icient	Point Biserial Coefficient	Discrim-ination Index
1.	C	.543	.685	.189	37.3
2.	E	.571	.309	.149	29.3
3.	D	.629	.637	.217	30.4
4.	A	.671	.218	.164	13.1
5.	A	.886	-.353	-.127	-16.3
6.	C	.600	.809	.267	48.0
7.	B	.414	.397	.271	25.8
8.	A	.671	.836	.471	47.4
9.	B	.771	.649	.191	30.1
10.	C	.471	.413	.174	31.0
11.	B	.757	.324	.179	18.6
12.	D	.671	.861	.400	53.6
13.	B	.671	.411	.259	24.5
14.	C	.729	.218	.006	13.1
15.	A	.557	.760	.320	42.2
16.	B	.529	.809	.470	48.0
17.	C	.457	.397	.223	26.1
18.	B	.700	.637	.233	30.4
19.	C	.800	.233	.164	12.7
20.	B	.643	.637	.400	30.4
21.	B	.543	.397	.145	25.8
22.	A	.900	.016	-.011	00.7
23.	B	.686	.818	.377	47.7
24.	A	.871	.141	.084	6.5
25.	D	.600	.218	.165	13.7
26.					
27.					
28.					
29.					
30.					

AREA: AGRICULTURAL PRODUCTION

Unit: Detecting and Controlling Common Livestock Diseases

Student Performance Objectives

The student should be able to:

1. When given various livestock animals common to the local areas infested with common diseases, and a recognized reference which describes symptoms and treatments for livestock disease, determine the disease causing damage, the recommended treatment, and whether technical or professional assistance is needed to carry out recommended treatment, and whether technical or professional assistance is needed to carry out recommended control procedures.

2. When given a list of diseases of livestock common to the local area, outline a preventative control program using recognized references for the given diseases, such that the possibility of disease can be reduced or eliminated in a given herd of livestock.

3. When given recommended treatments for specific diseases which do not require technical or professional assistance, and animals needing treatment, carry out the techniques, procedures and/or processes necessary to effectively control the disease(s) in question.

AREA: AGRICULTURAL PRODUCTION

Unit: Detecting and Controlling Common Livestock Diseases (1-4)

1. If a cow aborts, gives birth to a dead or weak calf, or has a normal birth and fails to expel the afterbirth, she is most probably infected with

    A. coccidoisis
    B. tuberculosis
    C. brucellosis
    D. trichinosis

2. In order to help prevent an outbreak of Brucellosis (Bangs' disease) in a herd of livestock you should:

    A. vaccinate steers at 2 weeks of age
    B. blood test all animals annually
    C. vaccinate with penicillin at 4 months of age
    D. feed a balanced ration

3. The assistance of a veterinarian should be acquired when giving:

    A. intraocular injections
    B. Intramuscular injections
    C. injections of Rotenone
    D. none of the above

4. A disease chiefly affecting young cattle that have been under stress during transportation from one point to another is called:

    A. anthrax
    B. shipping fever
    C. pneumonia
    D. none of the above

GO TO NEXT PAGE

5. Nutritional anemia, commonly found in swine can be prevented to some degree by following which procedure(s):

A. injections of iron to baby pigs
B. placing clean sod in the pen daily
C. giving pigs an iron and copper pill
D. all of the above

6. A program of livestock disease prevention and parasite control should include:

A. isolating affected animals and follow instructions for prescribed treatment
B. eliminate breeding grounds of parasites
C. maintain a small herd to lessen possible losses due to disease
D. A & B above

7. A disease of hogs in which infected animals first show fever and loss of appetite, then the eyes become filled with a sticky discharge and the animals prefer dark quarters is called:

A. rhinitis
B. colonitis
C. erysipelas
D. cholera

8. The technique most generally used to treat Milk Fever in cattle is:

A. inflating the udder with air
B. injecting the udder with mastoids
C. an intravenous injection of calcium
D. feeding high quality hay

GO TO NEXT PAGE

9. Operations such as castrating and docking of sheep should not be done when flies are prevalent, in order to prevent possible damage to the animal from:

A. round worms
B. screw worms
C. ticks
D. bagworms

10. In areas where Blackleg is known to have existed a preventative measure is to:

A. rotate pastures every 3 - 4 weeks
B. vaccinate all cattle at 3 - 4 months of age
C. burn and bury all animals
D. none of the above

11. When a horse has been improperly fed, worked or watered and shows signs of abdominal discomfort, constipation, and violent rolling and kicking, it most probably has:

A. lung worms
B. colic
C. distemper
D. founder

12. A regular program of spraying or dusting livestock with recommended chemicals will help to prevent:

A. screw worm
B. lung worms
C. mites
D. stomach worms

GO TO NEXT PAGE

13. Cattle showing signs of grass tetany can be treated by an injection of:

A. calcium
B. phosphorous
C. magnesium
D. A and C above

14. A nutritional ailment of horses which may be caused by overeating or overdrinking that may result in the dropping of the hoof sole and a turning up of the toe walls is:

A. founder
B. foot rot
C. toenitis
D. none of the above

15 Good sanitation practices when handling dairy cattle and equipment during the milking operation can greatly assist in preventing and controlling:

A. milk fever
B. mastitis
C. bag rot
D. scours

16 Rickets, a nutritional deficiency disease which exhibits symptoms of enlargement of the knee and hock joints is caused by a deficiency of:

A. vitamin D
B. nitrogen
C. vitamin C
D. potassium

GO TO NEXT PAGE

17. A condition in cattle and sheep where there is swelling of the paunch noticeable on the left side in front of the hip bone and usually found after animals have been turned in on lush green pastures is called:

A. tetany
B. bloat
C. colic
D. rumen distension

18. A common ailment of calves during winter months where there is loss of appetite, severe diarrhea, rough hair coat and sometimes death is:

A. cholera
B. white scours
C. milk poisoning
D. dietetic feceate

19. A disease of swine most serious in pigs 3 to 12 months old that has three forms; one which resembles cholera, a less severe form (diamond) and a chronic form where the knees and hocks are generally swollen and stiff is called:

A. enterotoxemia
B. encephalomyelitis
C. erysipelas
D. enteritis

20. Which of the cattle diseases listed below usually has lameness as a first symptom, reddening and swelling of the skin just above the hoof, and if in advanced stages, has a foul odor?

A. toenitis
B. foot evil
C. foot rot
D. founder

END OF TEST

TABLE: 1-4 S
AREA: Agricultural Production
TEST NO.: I-4
KUDER-RICHARDSON 20: .548
KUDER-RICHARDSON 21: .482
N(tests) = 72

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	C	.403	.836	.493	51.4
2.	B	.431	.918	.455	60.7
3.	A	.708	.673	.280	32.4
4.	B	.097	.696	.374	26.1
5.	D	.514	.637	.387	33.0
6.	D	.181	-.016	.061	-0.8
7.	D	.514	.930	.498	64.6
8.	C	.403	.661	.266	34.0
9.	B	.361	.951	.570	65.2
10.	B	.556	.637	.325	33.0
11.	B	.653	.187	.123	9.9
12.	C	.264	.413	.318	29.6
13.	D	.556	-.324	.067	-20.4
14.	A	.347	.718	.423	38.3
15.	B	.569	.790	.342	46.4
16.	A	.514	.440	.201	28.9
17.	B	.194	.637	.466	29.8
18.	B	.444	.750	.348	42.5
19.	C	.472	.790	.284	46.8
20.	C	.125	.413	.368	17.4
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

TABLE: 1-4 A
AREA: Agricultural Production
TEST NO.: 1-4
KUDER-RICHARDSON 20: .602
KUDER-RICHARDSON 21: .547

N(tests) = 54

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	C	.593	.760	.375	42.2
2.	B	.537	.790	.341	46.7
3.	A	.778	.869	.445	50.0
4.	B	.130	.780	.439	33.3
5.	D	.500	.836	.413	52.2
6.	D	.296	.956	.579	67.8
7.	D	.593	.413	.258	30.0
8.	C	.593	.339	.153	22.2
9.	B	.741	.309	.204	18.9
10.	B	.667	.203	.162	12.2
11.	B	.704	-.078	.025	-4.4
12.		.407	.918	.466	62.2
13.	D	.481	.637	.324	33.3
14.	A	.519	.649	.423	34.4
15.	B	.556	.718	.386	40.0
16.	A	.574	.951	.467	66.7
17.	B	.222	.673	.301	27.8
18.	B	.481	.994	.668	81.1
19.	C	.500	-.141	-.011	-8.9
20.	C	.315	.930	.455	61.1
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

AREA: AGRICULTURAL PRODUCTION

Unit: Castrating, Dehorning, Identifying and Injecting Livestock

Student Performance Objectives

The student should be able to:

1. When given an animal of a certain species, determine how best to restrain that animal in order to perform those management practices appropriate for that particular animal as quickly, painlessly and safely as possible.

2. When given a properly restrained male animal, castrate that animal by the most desirable procedure for the given environmental conditions to assure that the animal will not develop secondary sex characteristics.

3. When given a properly restrained animal, dehorn that animal by the most desirable procedure for the given environmental conditions to assure that the animal will not grow horns.

4. When given a properly restrained animal with one or both horns obstructing their vision or endangering their eye(s), remove enough of the horn(s) to correct the situation.

5. When given a properly restrained animal, apply the most appropriate means of identification on that animal to insure that it has a permanent means of identification.

6. When given a properly restrained animal, vaccinate it with the appropriate vaccine to insure that it has an immunity to a particular pathogen.

7. When given a properly restrained animal that has just been castrated, give that animal an intramuscular injection of an antibiotic to reduce the chances of infection from that operation.

8. When given a diagram of a certain species of livestock, explain the different types of injections that might be given and show on the diagram when they might or should be given in order to achieve the most desirable effect on the animal.

AREA: AGRICULTURAL PRODUCTION

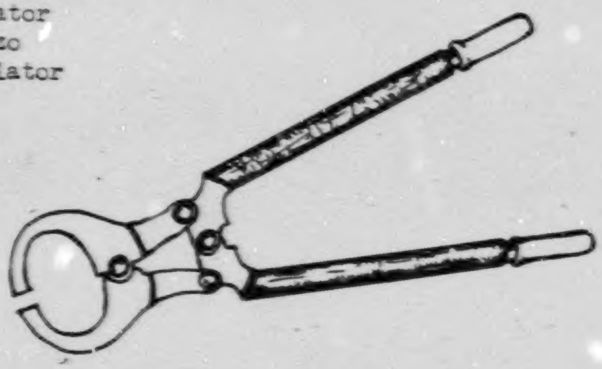
Unit: Castrating, Dehorning, Identifying, Injecting Livestock
(1-5)

1. Which of the illustrations on the following page shows the method of restraint most appropriate for castration to provide the least control problems.

   A.
   B.
   C.
   D.

2. The piece of castrating equipment shown below is a:

   A. elastrator
   B. burdizzo
   C. emasculator
   D. pliers



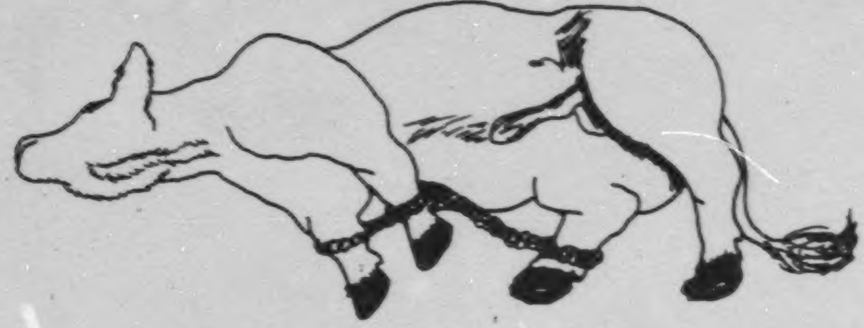
3. Which of the following is a reason for dehorning livestock:

   A. to prevent bruised carcasses
   B. to get a more rapid rate of gain
   C. to provide more trough space in feedlot
   D. all of the above

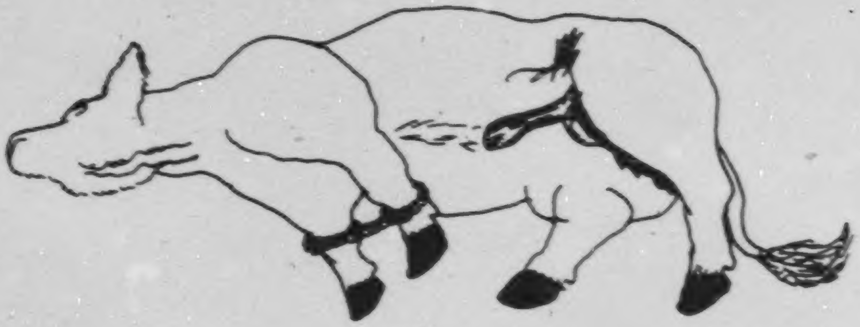
GO TO NEXT PAGE

Use these illust
tions to answer
question #1 on t
previous page

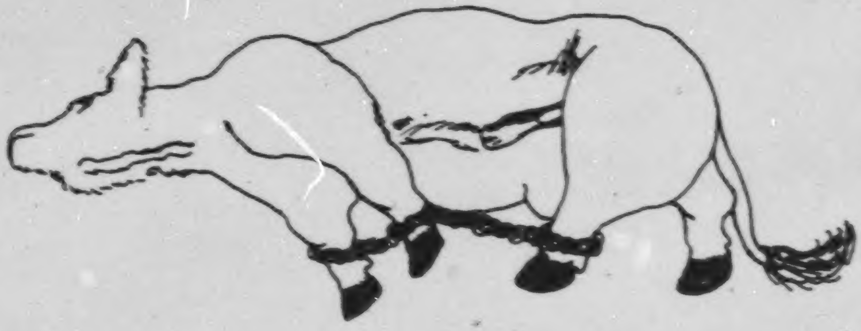
A.



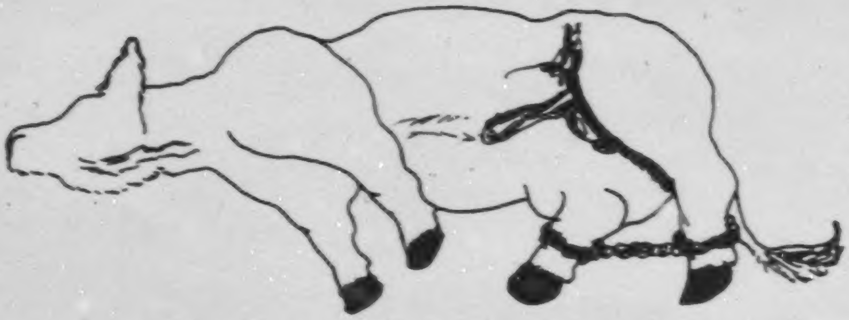
B.



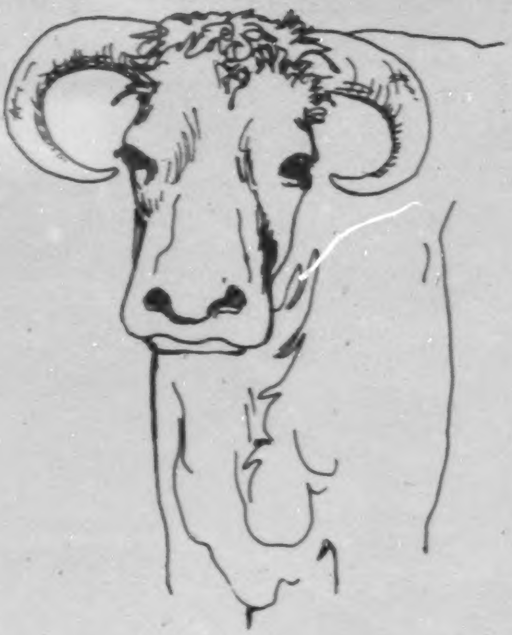
C.



D.

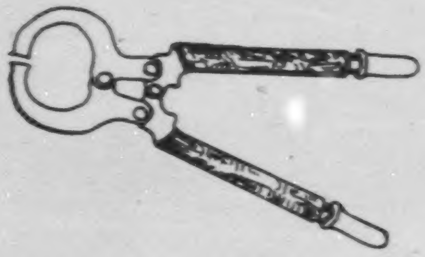


4.

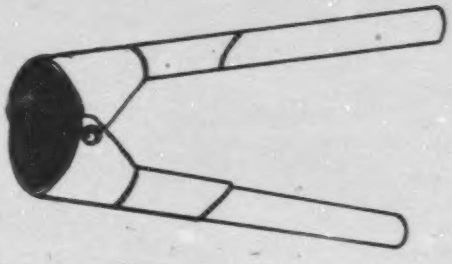


Which of the following tools pictured below should be used to prevent the cow's horns in the diagram above from growing into its eyes.

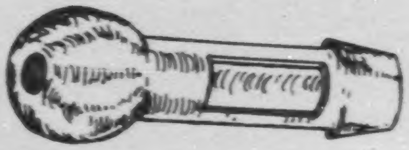
A.



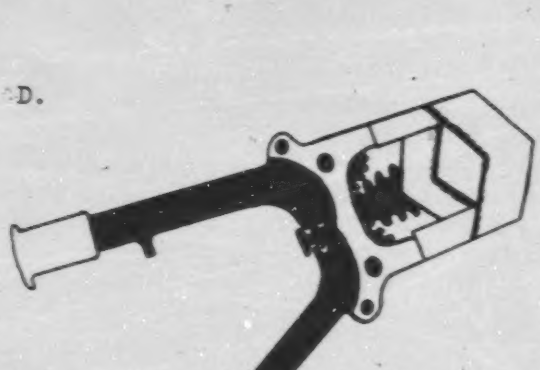
C.



B.



D.



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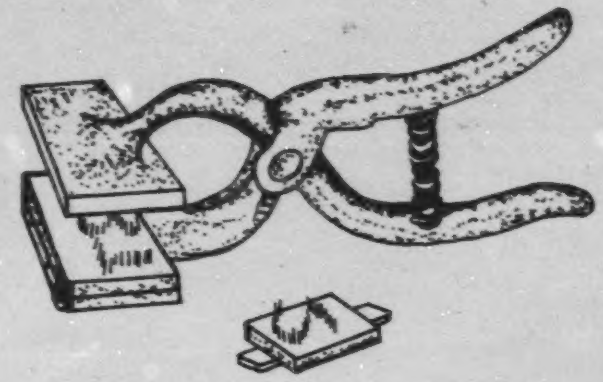
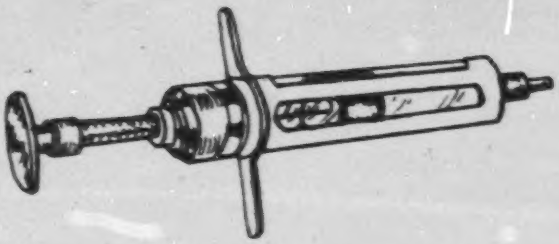
5. The device used for identifying livestock shown below is (are)

A. ear notching pliers
B. tagging pliers
C. tatooing pliers
D. none of the above



6. The device shown below is called a:

A. balling gun
B. siphon
C. syringe
D. none of the above



7. The temperature of materials to be injected and the syringe and needles should be:

A. near body temperature
B. higher than body temperature
C. near 34 degrees fahrenheit
D. none of the above

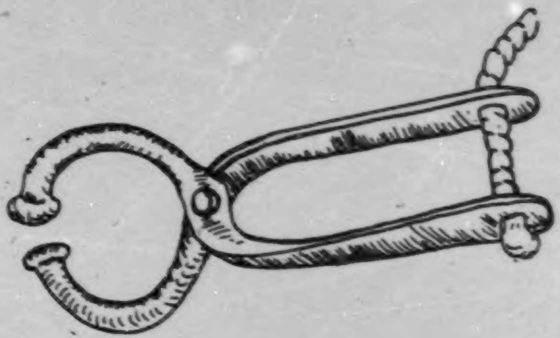
GO TO NEXT PAGE

8. A subcutaneous injection means:

A. injection in the leg muscles
B. injection under the skin
C. injection (into) the cuticle of the flank
D. injection into the eyelid

9. The piece of equipment shown below used for restraining animals is a:

A. hobble
B. nose lead
C. emasculator
D. hog snare



10. When castrating by the "knife" method, the cord should be cut by:

A. scraping
B. making a clean cut through the cord
C. burning the cord
D. none of the above

11. A chemical sometimes used for dehorning small calves is:

A. creolin paste
B. caustic potash
C. calcium powder
D. EQ 335 smear

GO TO NEXT PAGE

12. When cattle are identified by holding a branding iron against the animal for a sufficient length of time to destroy the color-producing cells which causes the hair to turn white, it is called:

A. tatooing
B. hot branding
C. freeze branding
D. cold packing

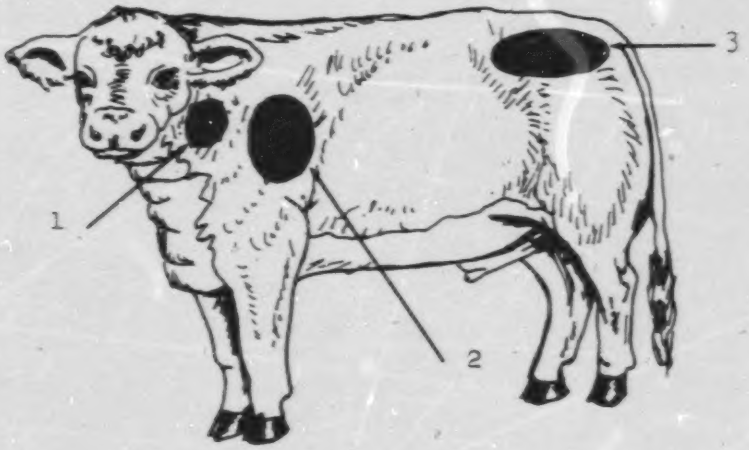
13. The abbreviation "c.c." stands for:

A. counter circle
B. cubic centimeter
C. cubic circumference
D. none of the above

14. Intramuscular injections are those made into large muscles. The muscles commonly used for the injection are in the:

A. neck and back
B. back and thigh
C. neck and thigh
D. leg and back

Use the diagram below to answer questions 15-16



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15. The area indicated as "1" above is the most likely spot for giving:

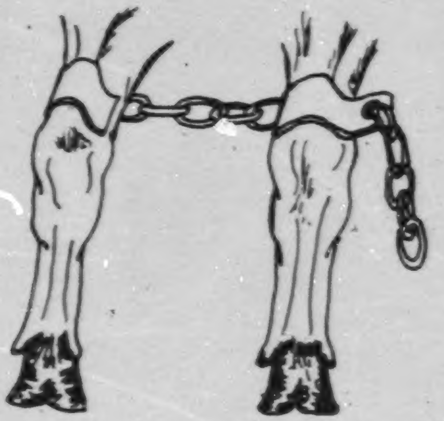
A. intramammary injections
B. intraveneous injections
C. intraocular injections
D. none of the above

16. Intramuscular injections are most commonly given in what area indicated in the diagram:

A. 1
B. 2
C. 3
D. none of the above

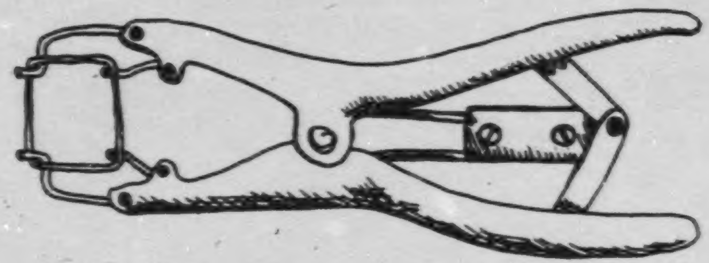
17. This picture shows what kind of restraining equipment?

A. leg irons
B. burdizzo
C. hobbles
D. chain grip



18. The device shown below used to castrate livestock is a(an):

A. burdizzo
B. elastrator
C. emasculator
D. banding gun



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19. In order to avoid damage to the area around horns from chemicals used for dehorning:

A. cover the area with cloth
B. apply lard or grease on the area
C. give an injection of aeromycin to prevent infection
D. all of the above

20. When freeze branding, the iron is cooled by a:

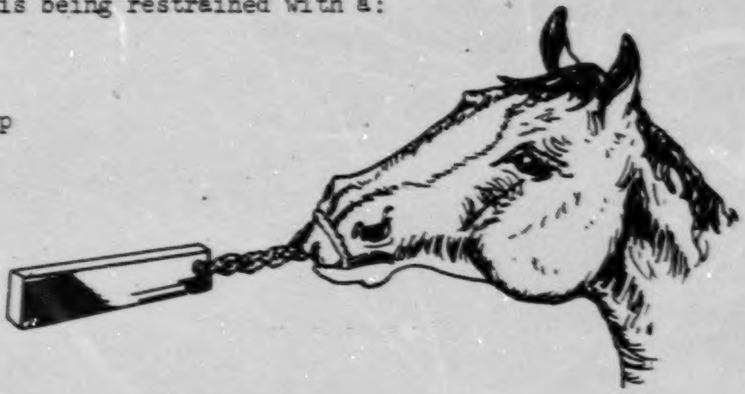
A. solution of dry ice and denatured alcohol
B. liquid nitrogen
C. solution of dry ice and water
D. both A and C are correct

21. Vaccines are made from:

A. bacterias
B. living germs
C. serums
D. both A and B are correct

22 This horse is being restrained with a:

A. twitch
B. hobble
C. nose grip
D. none



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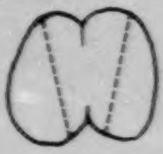
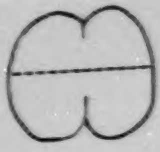
23. In the diagrams below, which illustrates the most appropriate method for making the castration incision in the scrotum of swine:

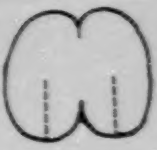
A.



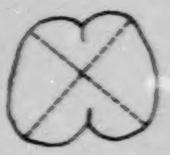
C.



B.



D.



24. When chemicals are used for dehorning, calves should be dehorned when they are:

A. 3 months old
B. 3-10 days old
C. 1 year old
D. 4 months old

25. An advantage of freeze branding over hot iron branding is:

A. does not require as much time to apply
B. is a cheaper method of identification
C. does not destroy the hide where the brand is applied
D. all of the above

26. Vaccines:

A. produce a mild attack of the disease when injected into an animal
B. produce immunity
C. produce antibodies
D. all of the above

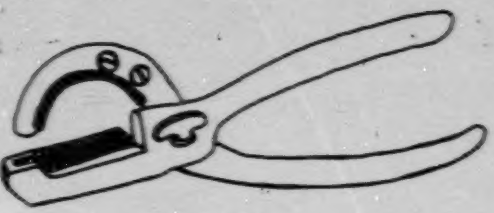
GO TO NEXT PAGE

27. A device which can be used to restrain cattle during castration is a:

A. chute
B. restraining trough
C. cattle grip
D. none of the above

28. The piece of castrating equipment shown below is used to:

A. cut the scrotum
B. sever the cord
C. smash the cord without cutting it
D. none of the above

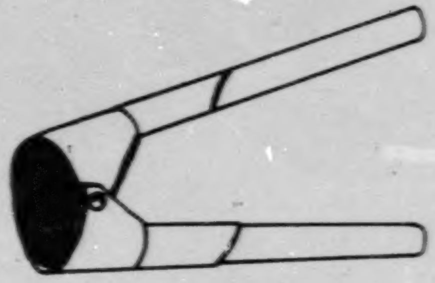


29. Which of the following is not a procedure to follow in order to prevent infection after castration:

A. clean hands and instruments
B. cut the scrotum at the point near the body
C. no fingers in the wound
D. none of the above

30. The piece of equipment shown below is call[illegible]

A. elastrator
B. dehorning tube
C. calf dehorner
D. caustic dehorner



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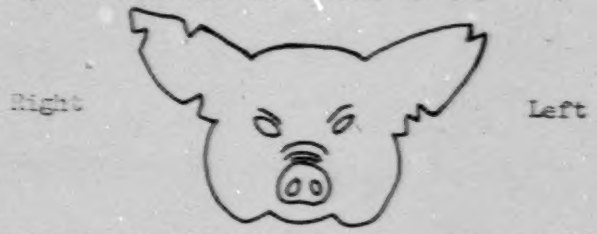
31. There are many marking systems for ear notching. One of the most commonly used is described below:

one notch in the lower right ear is 1
one notch in the lower left ear is 3
one notch in the upper right ear is 10
one notch in the upper left ear is 30

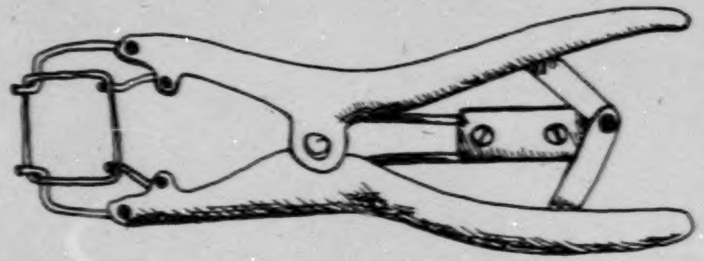
Using the above information, from what litter number is the pig shown below:

A. 38
B. 47
C. 48
D. 24



32. The device shown below is used to castrate livestock. It accomplishes this task by:

A. smashing the cord
B. cutting off blood circulation which causes the scrotum to rot
C. cutting the scrotum off immediately
D. none of the above



33. One of the best methods of permanent identification of young cattle is:

A. ear tags
B. neck chains
C. tatoo
D. horn branding

END OF TEST

TABLE: 1-5 S
AREA: Agricultural Production
TEST NO.: 1-5
KUDER-RICHARDSON 20: .736
KUDER-RICHARDSON 21: .694
N(tests) = 170

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	C	.565	.495	.331	33.1
2.	B	.629	.696	.413	48.7
3.	D	.512	.468	.247	30.9
4.	D	.524	.522	.301	35.0
5.	C	.253	.844	.481	59.3
6.	C	.159	.685	.452	41.3
7.	A	.329	.770	.485	53.0
8.	B	.318	.625	.350	39.8
9.	B	.118	.613	.368	29.5
10.	A	.335	.770	.405	53.0
11.	B	.553	.249	.165	15.5
12.	C	.494	.836	.460	62.9
13.	B	.335	.760	.440	53.2
14.	C	.476	.397	.185	26.1
15.	B	.506	.685	.365	47.9
16.	B	.747	.233	.093	13.1
17.	C	.565	.809	.456	59.3
18.	B	.365	.884	.497	66.3
19.	B	.694	.661	.361	43.0
20.	A	.818	.495	.211	22.7
21.	B	.847	.279	.184	13.6
22.	A	.547	.770	.407	55.1
23.	B	.471	.156	.109	10.0
24.	B	.824	.125	.052	6.8
25.	C	.506	.575	.269	39.2
26.	D	.518	.549	.311	37.1
27.	A	.641	.482	.313	31.4
28.	B	.641	.649	.360	42.8
29.	B	.559	.339	.225	22.0
30.	C	.500	.549	.357	37.1

TABLE: 1-5 S
AREA: Agricultural Production
TEST NO.: 1-5

Item	Correct Option	Relative Diffi-culty	Phi Coeff-icient	Point Biserial Coefficient	Discrim-ination Index
1.	C	.588	.661	.344	45.8
2.	B	.259	.637	.361	39.4
3.	C	.400	.661	.382	44.7
4.					
5.					
6.					
7.					
8.					
9.					
0.					
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8,					
9.					
0.					

TABLE: 1-5 A
AREA: Agricultural Production
TEST NO.: 1-5
KUDER-RICHARDSON 20: .752
KUDER-RICHARDSON 21: .698

N(tests) = 54

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	C	.407	.930	.548	65.7
2.	B	.593	.233	.242	14.7
3.	C	.648	.649	.310	32.4
4.	D	.648	.440	.187	28.9
5.	C	.259	.869	.478	52.9
6.	C	.093	.696	.373	29.4
7.	A	.389	.383	.182	25.5
8.	B	.444	.941	.569	68.1
9.	B	.037	.353	.167	11.8
10.	A	.463	.930	.495	65.7
11.	B	.389	.992	.618	82.4
12.	C	.389	.979	.573	76.5
13.	B	.444	.930	.583	65.7
14.	C	.537	.233	.203	14.7
15.	B	.519	.800	.435	48.0
16.	B	.611	.233	.179	14.7
17.	C	.463	.827	.400	50.5
18.	B	.352	.992	.695	82.4
19.	B	.630	.685	.266	37.3
20.	A	.481	.740	.364	40.7
21.	B	.907	-.203	-.170	-9.3
22.	A	.352	.999	.703	88.2
23.	B	.778	.031	.074	1.5
24.	B	.630	.172	.221	9.8
25.	C	.333	.324	.174	18.6
26.	D	.815	.649	.274	29.9
27.	A	.685	.203	.126	12.3
28.	B	.815	-.016	.010	-1.0
29.	B	.630	.988	.562	77.5
30.	C	.667	.685	.308	37.3

TABLE: 1-5 A
AREA: Agricultural Production
TEST NO.: 1-5

Item	Correct Option	Relative Diffi- culty	Phi Coeff- icient	Point Biserial Coefficient	Discrim- ination Index
1.	C	.648	.413	.195	31.4
2.	B	.146	.309	.097	15.2
3.	C	.500	.294	.249	19.6
4.					
5.					
6.					
7.					
8.					
9.					
0.					
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
0.					

AREA: AGRICULTURAL PRODUCTION

Unit: Market Classes and Grades of Livestock

Student Performance Objectives

The student should be able to:

1. Determine the market class most appropriate for a group of animals of varying species according to age, general use, sex and weight.

2. When given a group of animals of varying species and their intended use, determine the market grade(s) most appropriate for the animals according to conformation, finish and quality.

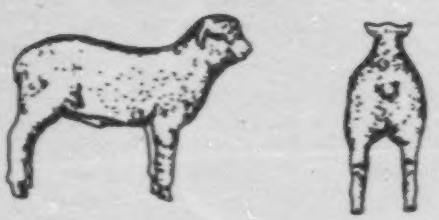
AREA: AGRICULTURAL PRODUCTION

Unit: Market Classes and Grades of Livestock (1-6)

1. Which of the following is not considered when determining market classes of cattle.

   A. sex
   B. age
   C. weight
   D. breed

A.



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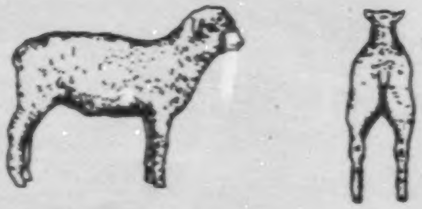

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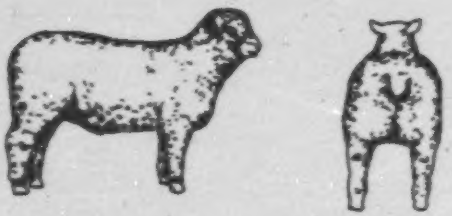

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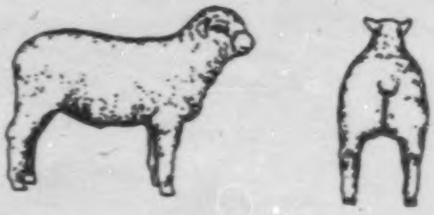


NOTE: Using the drawings of the four animals above answer questions 2 to 4

2. According to current standards, animal "A" above would be in the slaughter grade called

   A. prime
   B. choice
   C. good
   D. utility

GO TO NEXT PAGE

3. Animal "B" in question #1 above would be in the slaughter grade called:

   A. choice
   B. utility
   C. cutter
   D. none of the above

4. Given the following grades of slaughter lambs, what grade would you give to animal "D" above?

   A. choice
   B. utility
   C. good
   D. prime

5. Calves which are of weaning age and are sold to go back into the country for further growing or finishing are classed as:

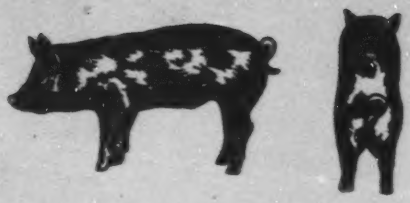
   A. slaughter calves
   B. feeder calves
   C. finishing calves
   D. stocker calves

6. Young lambs under one year of age that carry sufficient finish for slaughter purposes, but which show indications of making good gains if placed on feed are classed as:

   A. hothouse lambs
   B. slaughter lambs
   C. weaning lambs
   D. feeder lambs

GO TO NEXT PAGE

1.



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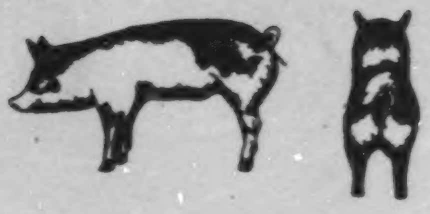

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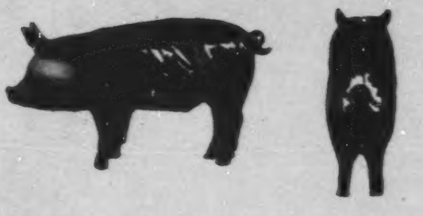

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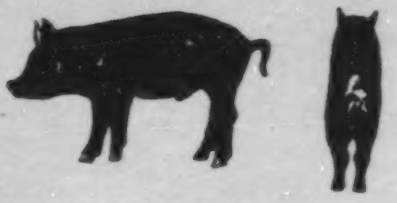


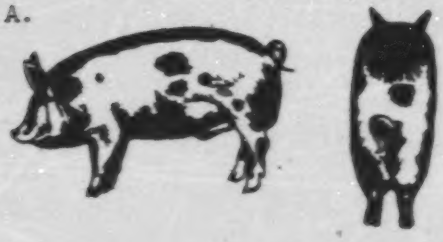
7. Using the diagrams of the feeder pigs above what would be the most logical order to have them arranged from "best" to "worst" market grade.

A. 1,2,4,3
B. 4,3,2,1
C. 3,4,1,2
D. 2,1,3,4

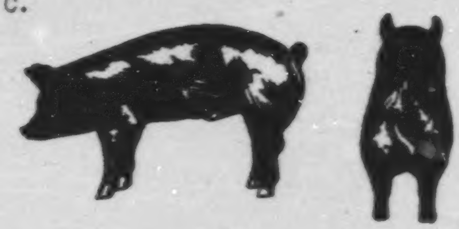
GO TO NEXT PAGE

Use the diagram of the four swine below to answer questions 8 to 11.

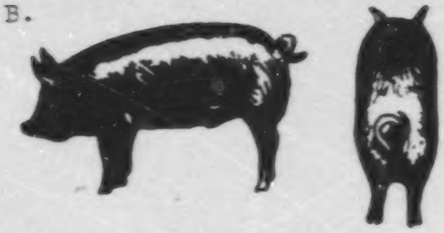
A.



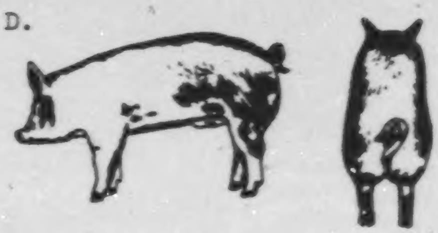
C.



B.



D.



8. Which of the animals above would you grade U.S. No.1?

A. animal "A"
B. animal "B"
C. animal "C"
D. animal "D"

9. Animal "B" above would most likely be in which of the following slaughter grades?

A. prime
B. U.S. No.4
C. U.S. No.1
D. U.S. No.3

10. Which animal in the diagram above would most likely be graded a U.S. No.4 :

A. animal "A"
B. animal "B"
C. animal "C"
D. animal "D"

GO TO NEXT PAGE

11. Animal "D" above would most probably be in which of the following market grades?

    A. U.S. No.1
    B. U.S. No.4
    C. U.S. No.2
    D. utility

12. Lambs that are usually less than three months of age at slaughter which are born and marketed out of season are classed as:

    A. spring lambs
    B. slaughter lambs
    C. hothouse lambs
    D. feeders

13. Which of the following is not a sex class of sheep

    A. ram
    B. ewe
    C. barrow
    D. wether

14. Which of the following is a term meaning a castrated male swine?

    A. steer
    B. barrow
    C. wether
    D. gilt

GO TO NEXT PAGE

Questions 15 thru 19

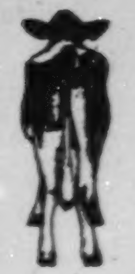
Match the terms on the right to the correct definition indicating the approximate age range of cattle

______	15. Cattle from 12 to 24 months of age	A. older cattle B. 2 year olds C. vealers D. calves E. yearlings
______	16. Cattle under 3 months of age	
______	17. Cattle from 24 to 36 months of age	
______	18. Cattle that are over 36 months of age	
______	19. Cattle between the vealer and yearling stage	

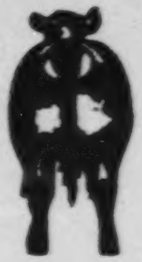
9

GO TO NEXT PAGE

NOTE: Use the drawing of slaughter cattle below to answer question 20-22



1



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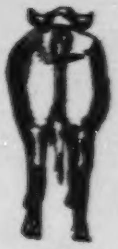
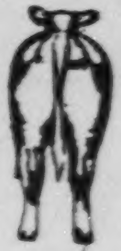


3



4

20. What is the most logical order to place the above four animals so that they go from "best" to "worst" slaughter grade

A. 1, 3, 4, 2
B. 2, 4, 3, 1
C. 4, 3, 1, 2
D. 4, 2, 1, 3

21. Animal "3" above would most likely be in which of the following slaughter grades?

A. prime
B. choice
C. good
D. utility

22. The animal above which will generally yield the highest amount of primal cuts is:

A. 1
B. 2
C. 3
D. 4

END OF TEST

TABLE: 1-6 S
AREA: Agricultural Production
TEST NO.: 1-6
KUDER-RICHARDSON 20: .789
KUDER-RICHARDSON 21: .744
N(tests) = 202

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	D	.500	.707	.300	39.4
2.	C	.277	.941	.512	61.6
3.	B	.886	-.078	-.018	-3.4
4.	D	.743	-.264	-.137	-14.0
5.	B	.317	.397	.193	22.9
6.	D	.337	.718	.350	37.5
7.	D	.188	.844	.465	45.5
8.	C	.322	.918	.535	58.0
9.	D	.406	.994	.536	80.9
10.	A	.307	.969	.585	70.5
11.	C	.376	.911	.548	59.7
12.	C	.450	.827	.388	49.4
13.	C	.238	.905	.521	55.9
14.	B	.262	.898	.475	53.2
15.	E	.228	.935	.589	58.9
16.	C	.426	.969	.593	71.0
17.	B	.198	.935	.556	58.9
18.	A	.109	.685	.425	26.1
19.	D	.411	.946	.548	65.3
20.	B	.129	.729	.399	30.3
21.	C	.193	.905	.526	50.0
22.	B	.183	.844	.385	42.2
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

TABLE: 1-6 A
AREA: Agricultural Production
TEST NO.: 1-6
KUDER-RICHARDSON 20: .689
KUDER-RICHARDSON 21: .589

N(tests) = 10

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	D	.000	.000	.000	00.0
2.	C	.300	.941	.686	66.7
3.	B	.700	.264	.132	16.7
4.	D	.500	-.941	-.491	-66.7
5.	B	.600	-.000	-.777	-100.0
6.	D	.400	.264	.424	16.7
7.	D	.000	.000	.000	00.0
8.	C	.500	.941	.664	66.7
9.	D	.300	.729	.497	33.3
10.	A	.300	.941	.623	66.7
11.	C	.500	.264	.317	16.7
12.	C	.800	.905	.245	50.0
13.	C	.100	.729	.702	33.3
14.	B	.200	.729	.332	33.3
15.	E	.700	.000	.699	100.0
16.	C	.400	.941	.365	66.7
17.	B	.400	.000	.777	100.0
18.	A	.100	.729	.702	33.3
19.	D	.400	.941	.188	66.7
20.	B	.300	.000	.812	100.0
21.	C	.400	.000	.777	100.0
22.	B	.800	.905	.317	50.0
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

AREA: AGRICULTURAL PRODUCTION

Unit: Controlling Weeds in Farm Crops

Student Performance Objectives

The student should be able to:

1. When given a situation of a weedy field, identify the major weeds common to the area, and describe well enough to classify them according to reproductive characteristics as well as type and degree of harmful effects.

2. When given a grain sample containing weed seeds, correctly identify the common noxious seeds to the satisfaction of the teacher.

3. When given a specific weed problem and crop rotation plan, outline and recommend an effective biological, cultural or chemical control program which will control anticipated weed problems to the satisfaction of the teacher.

4. When given a weed sprayer or applicator, calibrate and apply the recommended rate of material in an even coverage over the area or plants to be treated; clean and store the equipment according to manufacturer's recommendations.

AREA: AGRICULTURAL PRODUCTION

Unit: Using Concrete on the Farm

Student Performance Objectives

The student should be able to:

1. Given a particular farming operation, plan what concrete installations are necessary to meet the needs of the operation.
2. When given a concrete structure to build, assist in the building of forms in such a way that the structure will result in the intended strength and shape.
3. When given concrete forms prepared for the placing of concrete, assist in placing the concrete in such a way that the structure will result in the intended shape and strength.
4. Given a freshly poured structure, finish the concrete to provide the desired surface.
5. When given a freshly finished structure, cure and remove the forms from the concrete to produce a long lasting structure.

AREA: AGRICULTURAL PRODUCTION

Unit: Controlling Weeds in Farm Crops (1-7)

1. The weed shown in this slide is:

   A. smartweed
   B. sheep sorrel
   C. curled dock
   D. none of the above

2. The plant shown is:

   A. ragweed
   B. wildmustard
   C. lambsquarters
   D. yellow nutsedge

3. This slide shows an example of:

   A. idiot grass
   B. sheep sorrel
   C. smart weed
   D. pigweed

4. The weed shown in this slide is:

   A. horsenettle
   B. buckhorn plantain
   C. rough pigweed
   D. field bindweed

5. This slide shows an example of a weed called:

   A. chicory
   B. curled dock
   C. common plantain
   D. milkweed

GO TO NEXT PAGE

6. This slide shows an example of:

   A. canadian thistle
   B. velvet leaf
   C. purslane
   D. cocklebur

7. The weed shown in the slide is called;

   A. small ragweed
   B. smart weed
   C. sheep sorrel
   D. knot weed

8. This slide shows an example of:

   A. pigweed
   B. bindweed
   C. ground ivy
   D. purslane

9. The weed pictured in the slide is:

   A. sandbriar
   B. horsenettle
   C. pigweed
   D. A and B are both correct

10. This plant is called:

    A. lambsquarter
    B. jimsonweed
    C. wintercress
    D. cocklebur

11. The weed seed shown is:

    A. johnsongrass
    B. field bindweed
    C. canadian thistle
    D. corn-cockle

GO TO NEXT PAGE

12. This slide shows seeds from:

    A. field bindweed
    B. corn-cockle
    C. barnyardgrass
    D. curly dock

13. This is a slide of the seed of:

    A. ryegrass
    B. johnsongrass
    C. cheat
    D. orchardgrass

14. The weed seed shown is:

    A. buckhorn plantain
    B. ryegrass
    C. quackgrass
    D. johnsongrass

15. This slide is an example of:

    A. red sorrel
    B. corn-cockle
    C. buckhorn plantain
    D. canadian thistle

16. This is an example of:

    A. field bindweed
    B. quackgrass
    C. corn-cockle
    D. curly dock

17. This slide is an example of:

    A. johnsongrass
    B. curly dock
    C. buckhorn plantain
    D. field bindweed

GO TO NEXT PAGE

18. This slide shows weed seed from:

A. buckhorn plantain
B. cheat
C. corn-cockle
D. red sorrel

19. A herbicide is used to control:

A. insects
B. diseases
C. weeds
D. all of the above

20. 2,4-D is recommended for the control of:

A. buckhorn plantain
B. quackgrass
C. crabgrass
D. nimblewill

21. The chemical 2,4-D is used for weed control. Which weed is not killed by 2,4-D?

A. yellow grass
B. buckhorn plantain
C. crabgrass
D. curly dock

22. Chloro-IPC, Casoron, Simazine, and Treflan are all:

A. post-emergence herbicides
B. soil fumigants
C. pre-emergence herbicides
D. fungicides

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23. If you should accidently spill some herbicide concentrate on yourself, you should immediately:

A. consult the label to see if an antidote is suggested
B. remove contaminated clothing and wash thoroughly
C. telephone a doctor for instructions
D. contact the local poison control center

24. The first step in preparing to use herbicide is to:

A. put on your rubber gloves and respirator
C. clean the spray tank with hot soapy water
C. read the pesticide label
D. make sure the sprayer nozzles are not clogged

25. Pesticides should be stored:

A. in their original containers only
B. in a cool, dry place where they will not freeze
C. in a building or cabinet which is always locked
D. all of the above

26. Empty pesticide containers should be:

A. sent to the local dump or incinerator
B. thoroughly cleaned and recyceled
C. saved for future use
D. buried or burned away from people and animals

27. If you want to spray weed killer on a pasture with a boom sprayer:

A. use cone type nozzles and a pressure of 25 to 40 PSI
B. use cone type nozzle and a pressure of 25 to 150 PSI
C. use fan type nozzle and a pressure of 25 to 40 PSI
D. use fan type nozzle and a pressure of 125 to 150 PSI

28. Spray volume per minute may change due to:

A. worn nozzle tips
B. increased ground speed
C. decreased ground speed
D. amount of chemical tank Capacity

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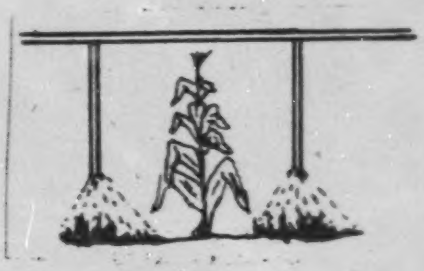
29. The nozzle arrangement shown below is best described as:

A. complete overtop coverage for weeds or insects and between narrow rows for weed control
B. between rows for weed control
C. over and between rows
D. between rows for control of insects



30. Which of the following factors does not affect the eventual spray application rate per acre?

A. pressure and delivery of the pump
B. volume of the tank
C. speed of forward travel
D. nozzle size

31. Select the best in-field adjustment to reduce spray volume:

A. increasing operation pressure
B. lowering operation pressure
C. changing pumps
D. shortening the spray boom

32. You are spraying a herbicide on a pasture with a 12 foot boom having 8 nozzles. The desired application rate is 40 gallons per acre. The tractor is moving at 5 miles per hour. You are using a nozzle size of .048" with a nozzle pressure of 40 pounds PSI. Which of the following factors are needed to check the actual application rate?

A. boom width, nozzle number, and ground speed
B. boom width, nozzle number, and nozzle size
C. boom width, nozzle number and nozzle pressure
D. boom width, nozzle number, nozzle pressure and nozzle size

END OF TEST

TABLE: 1-7 S
AREA: Agricultural Production
TEST NO.: I-7
KUDER-RICHARDSON 20: .572
KUDER-RICHARDSON 21: .422
N(tests) = 32

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	C	.313	.809	.440	48.2
2.	A	.969	.000	-.078	00.0
3.	C	.813	.440	.162	14.3
4.	B	.375	.696	.284	35.7
5.	D	.375	.906	.302	60.7
6.	A	.188	.685	.187	25.0
7.	C	.969	.440	.216	14.3
8.	D	.875	.047	.068	1.8
9.	D	.750	.649	.123	30.4
10.	A	.375	.696	.302	35.7
11.	C	.625	.780	.368	46.4
12.	A	.344	.696	.405	35.7
13.	B	.719	.924	.316	57.1
14.	C	.344	.935	.422	62.5
15.	C	.781	.844	.306	42.9
16.	C	.594	.905	.456	60.7
17.	B	.688	.924	.516	57.1
18.	D	.781	-.203	-.024	-10.7
19.	C	.188	.397	.274	23.2
20.	A	.719	.790	.392	44.6
21.	C	.875	.844	.403	42.9
22.	C	.531	.078	.172	5.4
23.	B	.313	.869	.330	50.0
24.	C	.594	-.696	-.203	-35.7
25.	D	.500	.110	.026	7.1
26.	D	.094	.685	.462	25.0
27.	C	.531	.969	.531	73.2
28.	A	.406	.979	.533	75.0
29.	B	.281	.869	.538	50.0
30.	B	.250	.790	.251	37.5

TABLE: 1-7 S
AREA: Agricultural Production
TEST NO.: 1-7

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	B	.375	-.637	-.121	-32.1
2.	A	.875	-.383	-.061	-12.5
3.					
4.					
5.					
6.					
7.					
8.					
9.					
0.					
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
0.					

TABLE: 1-7 A
AREA: Agricultural Production
TEST NO.: 1-7
KUDER-RICHARDSON 20: .471
KUDER-RICHARDSON 21: .364

N(tests) = 64

Item	Correct Option	Relative Diffi-culty	Phi Coeff-icient	Point Biserial Coefficient	Discrim-ination Index
1.	C	.781	-.110	-.019	-5.4
2.	A	.844	.309	.110	13.7
3.	C	.703	.440	.288	28.3
4.	B	.750	.707	.445	47.5
5.	D	.125	-.187	.019	-7.1
6.	A	.328	.790	.478	55.8
7.	C	.859	.426	.129	20.4
8.	D	.766	.353	.235	21.2
9.	D	.828	-.110	.018	-5.4
10.	A	.609	.770	.401	54.2
11.	C	.953	.411	.107	13.3
12.	A	.891	.411	.115	13.3
13.	B	.844	.718	.380	40.0
14.	C	.688	.264	.162	14.6
15.	C	.703	-.279	-.122	-17.1
16.	C	.828	.156	.080	7.5
17.	B	.766	.141	.081	8.3
18.	D	.766	-.094	.025	-5.0
19.	C	.438	.454	.220	29.6
20.	A	.813	.588	.197	26.7
21.	C	.766	.700	.290	46.7
22.	C	.625	.141	.105	9.2
23.	B	.438	.536	.257	35.8
24.	C	.391	.740	.318	49.6
25.	D	.406	.924	.564	74.6
26.	D	.641	.729	.428	47.1
27.	C	.703	.536	.247	34.6
28.	A	.656	.353	.226	21.7
29.	B	.422	.685	.400	48.3
30.	B	.531	.818	.465	61.2

TABLE: 1-7 A
AREA: Agricultural Production
TEST NO.: 1-7

Item	Correct Option	Relative Diffi-culty	Phi Coeff-icient	Point Biserial Coefficient	Discrim-ination Index
1.	B	.438	.760	.427	55.0
2.	A	.656	.536	.275	34.6
3.					
4.					
5.					
6.					
7.					
8.					
9.					
0.					
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
0.					

AREA: AGRICULTURAL PRODUCTION

Unit: Electric Welding in Agricultural Mechanics

Student Performance Objectives

The student should be able to:

1. Provided various types of materials to be welded, correctly identify the type of metal by using sight, texture, and/or spark test results.

2. Run beads in various positions by selecting the proper electrode, maintaining the proper arc length, selecting the proper current setting, maintaining proper speed of travel and proper electrode angle.

3. Given the metals to be welded and appropriate welding equipment, follow and exhibit safe operating procedures for arc welding to prevent injury to students or damage to the welding equipment.

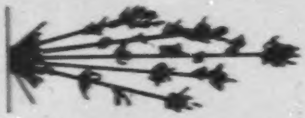
4. Given metals to be welded and the appropriate welding equipment, prepare the metal and make lap, fillet, and butt welds in the flat, horizontal, vertical, and overhead positions that will not break under the operating conditions of the equipment being repaired.

AREA: AGRICULTURAL PRODUCTION

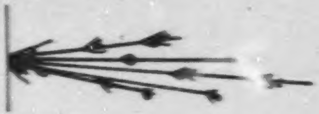
Unit: Electric Welding in Agricultural Mechanics (1-8)

1. Which of the sparks shown are produced by grinding cast iron?

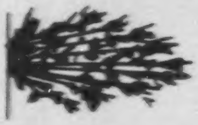
A.



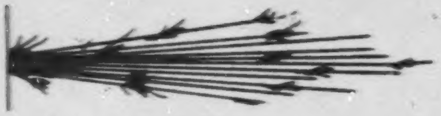
C.



B.



D.



2. In the diagram above "D" indicates:

A. cast iron
B. wrought iron
C. low carbon steel
D. malleable iron

3. In order to have a high quality weld, when running a flat bead, the electrode should be positioned at:

A. a 35 degree angle in the direction of travel
B. a 30 degree angle in the opposite direction of travel
C. a 15 degree to 25 degree angle in the direction of travel
D. a 5 degree to 10 degree angle in the direction of travel

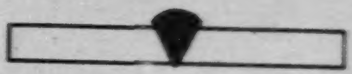
4. The commonly recommended helmet lens to use when arc welding:

A. no. 7
B. no. 10
C. no. 18
D. no. 3

GO TO NEXT PAGE

5. The weld joint shown is:

A. flat butt
B. vertical butt
C. flat lap
D. none of the above



6. Tool steel is commonly used for making:

A. angle iron
B. chisels
C. machinery braces
D. A and B above

7. An electrode classified as E 6011 can be used when:

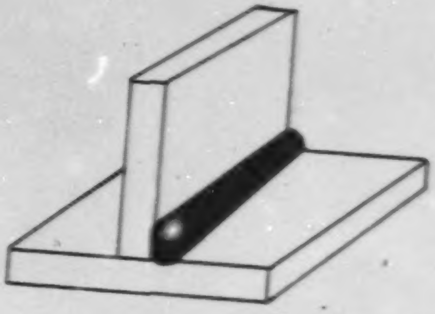
A. hardsurfacing metals
B. welding cast iron
C. welding stainless steel
D. welding steel

8. A recommended safety precaution which should be followed when arc welding is:

A. to wear gauntlet gloves
B. to change polarity only when the amperage is above 50
C. to use a helmet with a no. 7 lens
D. A and B above

9. The weld joint shown is:

A. horizontal butt
B. flat cap
C. fillet
D. none of the above



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10. Machinery steel when compared to mild steel is:

A. lighter and softer
B. used to make machinery bolts
C. lower in carbon content
D. stronger and harder

11. Electrode size is measured by:

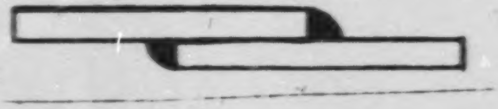
A. length of the electrode
B. diameter of the electrode
C. the circumference in centimeters
D. all of the above

12. Looking at an electric arc without eye protection may:

A. cause permanent eye injury
B. not be injurious if you rest your eyes every 20 seconds
C. cause temporary eye burn
D. severely burn the retina of the eye

13. The weld joint shown is:

A. a vertical butt
B. a flat butt
C. a flat fillet
D. none of the above



14. It is necessary to use the correct speed or rate of travel of the electrode in order to:

A. prevent waste of materials
B. keep the amperage high enough to weld the pieces
C. obtain a strong, neat appearing weld
D. A and C above

15 The area used for arc welding should be:

A. well-ventilated
B. in a separate room of the shop
C. lined with asbestos
D. B and C above

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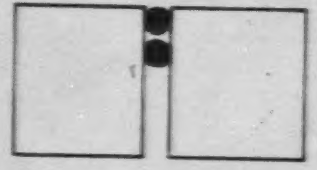
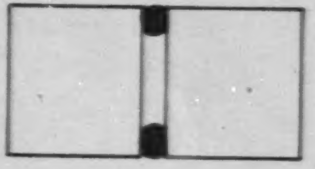
16. Which of the following procedures will give the least distortion when welding steel?

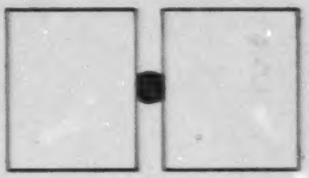
A.



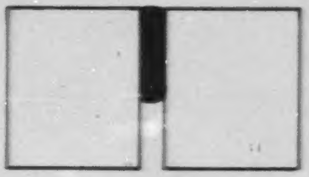
C.



B.

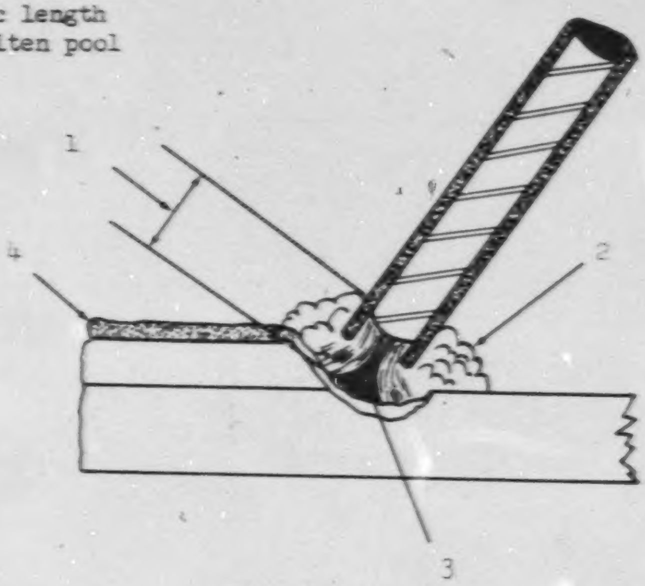


D.



17. In the diagram below, number 1 refers to the

A. flame
B. welding cone
C. arc length
D. molten pool



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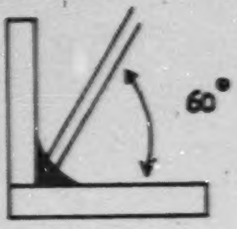
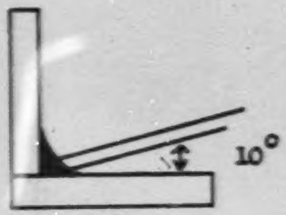
18. Which of the following diagrams best illustrates the correct angle of the electrode?

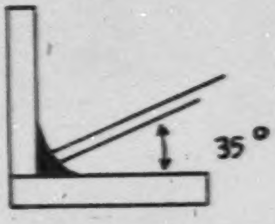
A.



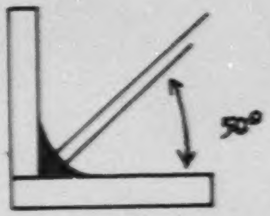
C.



B.

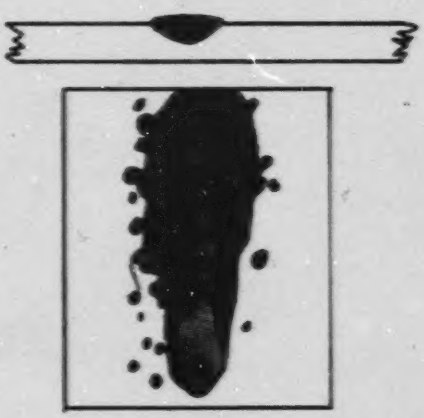


D.



19. From the bead shown below it appears that

A. the current is too low
B. the voltage is too high
C. speed is too fast
D. current is too high



20. Using several welding beads to build up a worn surface is called

A. hardsurfacing
B. surface plating
C. padding
D. none of the above

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21. Many small drops of spatter along an arc welding bead results from:

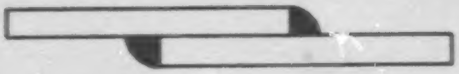
A. incorrect angle of electrode
B. travel too slow
C. current setting too high
D. arc too short

22. A flat weld results from:

A. arc too short
B. incorrect angle of electrode
C. travel too slow
D. current setting too high

23. The weld joint shown below is:

A. a vertical butt
B. a flat butt
C. a flat fillet
D. none of the above



24. The electrode which is especially adapted for arc welding high carbon steel is:

A. tugsten carbide
B. monel metal
C. nickel
D. low hydrogen

25. The electrode which is especially adapted for arc welding cast iron is:

A. stainless steel
B. nickel
C. monel metal
D. stoodite

END OF TEST

TABLE: 1-8 S
AREA: Agricultural Production
TEST NO.: 1-8
KUDER-RICHARDSON 20: .559
KUDER-RICHARDSON 21: .505

N(tests) = 92

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	B	.750	-.279	-.068	-12.8
2.	C	.652	.536	.262	35.2
3.	C	.761	.279	.119	15.3
4.	B	.554	.673	.388	46.8
5.	A	.554	.869	.529	67.3
6.	B	.435	.625	.402	42.5
7.	D	.500	.809	.466	59.5
8.	A	.641	.637	.384	43.3
9.	C	.554	.411	.203	26.8
10.	D	.283	.770	.409	54.7
11.	B	.609	.729	.404	51.3
12.	B	.663	.575	.339	35.5
13.	D	.674	.637	.364	43.2
14.	D	.489	.353	.230	22.7
15.	A	.424	.760	.370	54.8
16.	C	.283	.876	.550	62.5
17.	C	.630	.482	.235	31.2
18.	B	.446	.218	.141	14.0
19.	D	.826	.440	.315	23.7
20.	C	.772	-.094	-.073	-4.8
21.	C	.337	.685	.352	46.5
22.	D	.717	.661	.345	39.8
23.	D	.793	.588	.344	35.7
24.	D	.793	.339	.195	19.3
25.	B	.587	.218	.075	14.3
26.					
27.					
28.					
29.					
30.					

TABLE: 1-8 A
AREA: Agricultural Production
TEST NO.: 1-8
KUDER-RICHARDSON 20: .578
KUDER-RICHARDSON 21: .547
N(tests) = 90

Item	Correct Option	Relative Diffi- culty	Phi Coeff- icient	Point Biserial Coefficient	Discrim- ination Index
1.	B	.511	.707	.344	38.6
2.	C	.622	.411	.215	25.5
3.	C	.678	.770	.313	44.1
4.	B	.544	.696	.345	37.7
5.	A	.589	.891	.383	58.2
6.	B	.511	.637	.307	33.2
7.	D	.544	.637	.276	33.2
8.	A	.689	.673	.358	34.5
9.	C	.767	.707	.371	35.5
10.	D	.311	.770	.341	40.9
11.	B	.600	.853	.405	53.2
12.	C	.700	.661	.187	30.9
13.	D	.544	.836	.408	51.8
14.	D	.522	.685	.172	35.0
15.	A	.411	.836	.414	51.8
16.	C	.300	.891	.376	50.0
17.	C	.667	.413	.235	30.0
18.	B	.667	.203	.064	11.8
19.	D	.722	.203	.134	11.8
20.	C	.589	.790	.414	47.3
21.	C	.511	.637	.239	33.2
22.	D	.756	.309	.146	16.8
23.	D	.544	.836	.383	51.8
24.	D	.778	.661	.275	30.9
25.	B	.611	.836	.358	52.3
26.					
27.					
28.					
29.					
30.					

AREA: AGRICULTURAL PRODUCTION

Unit: Using Concrete on the Farm

Student Performance Objectives

The student should be able to:

1. Given a particular farming operation, plan what concrete installations are necessary to meet the needs of the operation.

2. When given a concrete structure to build, assist in the building of forms in such a way that the structure will result in the intended strength and shape.

3. When given concrete forms prepared for the placing of concrete, assist in placing the concrete in such a way that the structure will result in the intended shape and strength.

4. Given a freshly poured structure, finish the concrete to provide the desired surface.

5. When given a freshly finished structure, cure and remove the forms from the concrete to produce a long lasting structure.

AREA: AGRICULTURAL PRODUCTION

Unit: Using Concrete on the Farm (1-9)

1. The unit of measure for concrete volume is the:

   A. yard
   B. cubic yard
   C. linear foot
   D. cubic foot

2. In order to obtain a neater and stronger concrete installation:

   A. an extra part of sand should be added to the mixture
   B. sharp corners and angles should be avoided
   C. forms should be constructed with crude or crankcase oil on the boards
   D. all of the above

3. When concrete is placed in tall forms at a fairly rapid rate there is likely to be some "bleeding" of water:

   A. to the sides of the forms
   B. to the bottom of the forms
   C. to the top surface
   D. to the center of the concrete installation

4. When newly placed concrete is leveled to remove humps and hollows it is called:

   A. striking off
   B. darbying
   C. bull floating
   D. consolidating

5. When concrete temperature is 50 degrees fahrenheit or above, it should be allowed to cure for at least:

   A. 2 days
   B. 5 days
   C. 3 days
   D. 7 days

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6. In a 1:2:3 concrete mixture the "2" refers to the volume of:

A. water
B. gravel
C. sand
D. cement

7. In order to obtain good uniformity, concrete should be placed in the forms in layers not more than:

A. 25" thick
B. 18" thick
C. 38" thick
D. none of the above

8. In order to avoid bleeding of any free water to the surface of the concrete, the tool which should be used is a:

A. screed
B. bull float
C. hand tamper
D. none of the above

9. The most favorable range for curing concrete is:

A. 45 degrees - 50 degrees fahrenheit
B. 80 degrees - 85 degrees fahrenheit
C. 55 degrees - 73 degrees fahrenheit
D. none of the above

10. Using the formula below, how much concrete is needed for a 4 inch floor for a 30'x 60' building?

A. 27.64 cubic yards
B. 22.22 cubic yards
C. 222.2 cubic yards
D. 26.60 cubic yards

$$\frac{\text{width in ft. x length in ft. x thickness in ft.}}{27}$$

GO TO NEXT PAGE

11. When all bleed water has left the surface of the concrete, the surface will appear:

    A. glossy
    B. dull (without gloss)
    C. rough
    D. A and C above

12. Concrete can be cured effectively by:

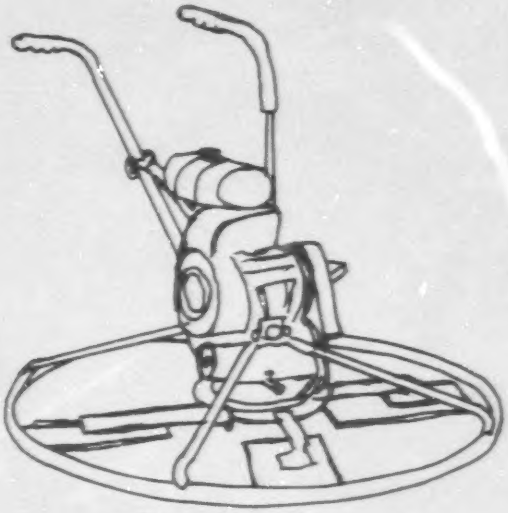
    A. adding moisture to concrete immediately after placement
    B. adding additional aggregates during mixing
    C. sealing the surface to prevent moisture loss
    D. A and C above

13. Newly placed concrete should be tamped in order to:

    A. thoroughly mix the concrete and water together
    B. remove air pockets around aggregates
    C. keep the concrete from sticking to the forms
    D. A and B above

14. The machine shown in the diagram below is called:

    A. power edger
    B. power trowel
    C. power float
    D. none of the above



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15. In vertically formed concrete, a simple way to prevent "drying out" is to:

A. cover with straw
B. leave forms in place
C. line forms with plastic
D. none of the above

16. If vibrators are used to consolidate placed concrete, care must be taken to avoid:

A. bringing water and fine sand to the surface
B. using the vibrators with stiff harsh mixes
C. segregating the mix
D. A and C are both correct

17. The hand and power float is used to prepare the concrete surface for:

A. screeding
B. striking off
C. troweling
D. consolidating

18. With air-entrained concrete installations there is:

A. less bleeding than regular Portland cement
B. no need for troweling
C. no aggregate in the mix
D. A and B are both correct

19. Aggregates generally comprise _____ to _____ percent of the volume of a concrete mixture. (select answer below)

A. 20 to 40
B. 60 to 80
C. 30 to 50
D. 10 to 30

20. Joints that are used to separate slabs-on-ground from points of abutment such as walls and footings are called:

A. construction joints
B. control joints
C. isolation joints
D. A and C are both correct

END OF TEST

TABLE: 1-9 S
AREA: Agricultural Production
TEST NO.: 1-9
KUDER-RICHARDSON 20: .529
KUDER-RICHARDSON 21: .452

N(tests) = 76

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	B	.329	.884	.516	55.7
2.	B	.684	.969	.676	71.0
3.	C	.421	.905	.491	59.7
4.	B	.500	.827	.484	51.2
5.	B	.855	-.264	-.110	-11.7
6.	C	.368	.264	.244	15.2
7.	B	.724	.172	-.000	9.0
8.	B	.855	.110	.057	4.5
9.	C	.355	.740	.358	39.5
10.	B	.566	.661	.294	34.5
11.	B	.408	.905	.529	59.7
12.	C	.605	.707	.385	38.3
13.	B	.461	.869	.491	55.3
14.	B	.500	.898	.493	59.5
15.	B	.645	.876	.502	54.5
16.	C	.763	-.063	-.049	-3.2
17.	C	.434	.898	.445	59.5
18.	A	.829	.110	.110	4.7
19.	B	.776	.203	.017	8.7
20.	C	.776	.187	.060	8.8
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

TABLE: 1-9 A
AREA: Agricultural Production
TEST NO.: 1-9
KUDER-RICHARDSON 20: .717
KUDER-RICHARDSON 21: .639

N(tests) = 42

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	B	.381	.985	.633	75.0
2.	B	.952	.309	.242	7.7
3.	C	.452	.063	.077	3.8
4.	A	.500	.997	.592	84.0
5.	B	.690	.800	.427	38.5
6.	C	.405	.905	.567	59.0
7.	C	.333	.884	.447	50.0
8.	B	.881	-.187	-.132	-9.6
9.	C	.310	.951	.461	67.3
10.	B	.405	.905	.526	59.0
11.	B	.405	.760	.334	43.6
12.	C	.643	.809	.436	45.5
13.	B	.381	.426	.342	28.2
14.	B	.357	.930	.534	58.3
15.	B	.810	.740	.491	37.8
16.	C	.952	.000	-.074	00.0
17.	C	.405	.998	.594	83.3
18.	A	.619	.673	.337	35.9
19.	B	.595	.898	.585	60.3
20.	C	.857	.172	.038	7.1
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

AREA: AGRICULTURAL PRODUCTION

Unit: Maintenance of Small Gasoline Engines

Student Performance Objectives

Tee student should be able to:

1. Identify the different types of carburetor air cleaners commonly found on small gasoline engines and clean and service them according to the manufacturer's specifications
2. Identify the three basic types of fuel strainers commonly found on small gasoline engines and clean and service them according to the manufacturer's specifications.
3. Select the right oil, keep the proper crankcase oil level, and change the oil in a four stroke cycle engine according to manufacturer's specifications for small gasoline engines.
4. Select and service the spark plug on two and four stroke cycle engines according to manufacturer's specifications.
5. Identify the principles of carburetor operation in small gasoline engines and make carburetor adjustments for most efficient performance.

AREA: AGRICULTURAL PRODUCTION

Unit: Maintenance of Small Gasoline Engines
(1-10)

1. If you fail to service your air cleaner properly:

   A. some dirt may enter the combustion chamber and be blown out through the muffler
   B. the dirt may pass into the engine and mix with the lubrication oil
   C. the dirt will build up and choke the engine
   D. all of the above

2. To avoid air pockets after cleaning the sediment bowl:

   A. realign the gasket in the exact same position it was when removed
   B. fill the bowl with a gasoline additive
   C. fill the sediment bowl before tightening the jam nut
   D. both A and C are correct

3. Oil viscosity grade refers to:

   A. its resistance to flow
   B. its freezing temperature
   C. the amount of additives
   D. the service conditions under which it should be used

4. Most small gasoline engines use plugs with:

   A. longer reaches
   B. shorter reaches
   C. average length reaches

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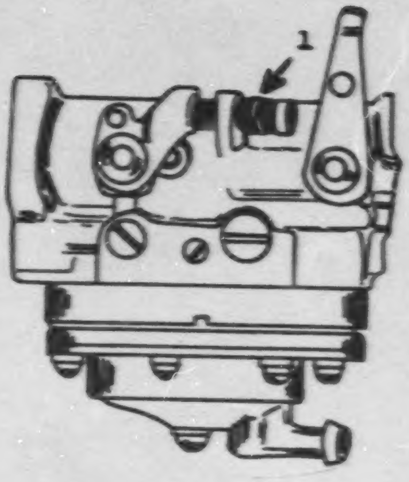
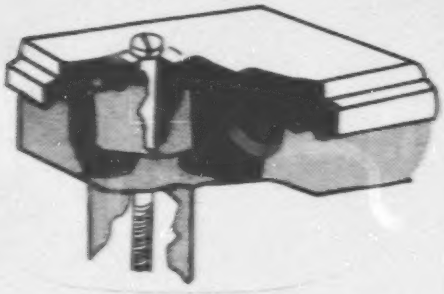


5. From this diagram of a typical carburetor, no. 1 is called the:

   A. idle mixture adjustment
   B. high-speed load adjustment
   C. idle speed stop screw
   D. float level adjustment



6. This diagram represents a:

   A. dry-filter type air cleaner
   B. oiled-filter type air cleaner
   C. oil-bath type air cleaner
   D. none of the above

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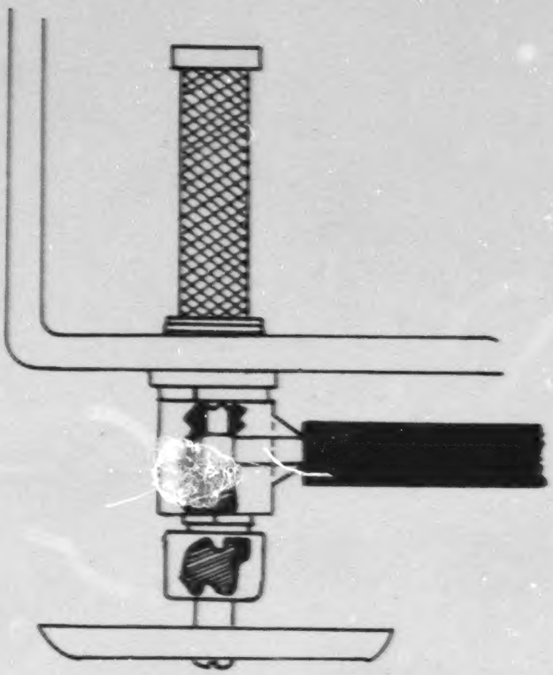

7. This diagram represents a:

A. screen and sediment bowl filter
B. breather valve and filter
C. screen in the fuel tank fuel filter
D. crankcase valve and filter

8. Under normal operating conditions the crankcase oil on a 4 stroke cycle small engine should be checked:

A. every 2 to 4 hours of operation
B. once every week
C. when the engine begins knocking
D. once every month

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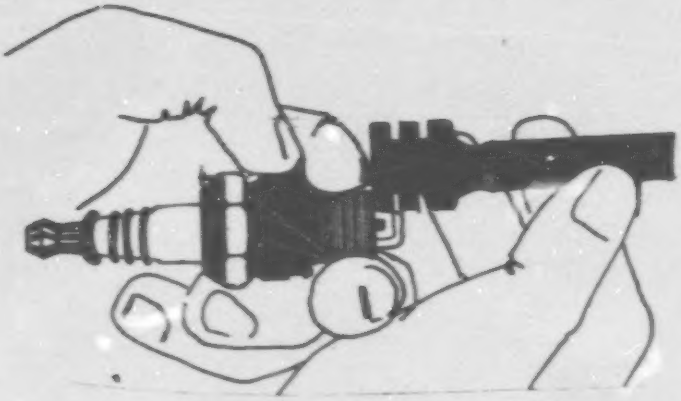

9. In the above diagram, the person is using a(n):

   A. flat feeler gauge
   B. wire feeler gauge
   C. gap setter
   D. ignition file

10. Of the following types of carburetors found on small gasoline engines, the one usually used on chain saws is the:

   A. float feed type
   B. suction type
   C. diaphram type

11. The venturi in the carburetor causes:

   A. low air speed, low pressure
   B. high air speed, low pressure
   C. low air speed, high pressure
   D. high air speed, high pressure

12. Lean fuel mixtures in a small gasoline engine will cause:

   A. engine overheating
   B. carbon deposits on combustion chamber parts
   C. fouled spark plugs
   D. wasted fuel

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13. When servicing an oiled-filter type air cleaner, you should:

    A. clean the filter with gasoline or Naptha
    B. clean the filter with soapy water
    C. clean the filter with petroleum solvent
    D. use a stiff brush to clean the filter

14. When servicing the screen-type of fuel strainer:

    A. clean the strainer with a dry cloth
    B. be sure the fuel tank is full
    C. remove the full strainer from the fuel tank, if possible
    D. all of the above

15. When adjusting the main needle valve and idle valve on a small gasoline engine:

    A. the idle valve should be adjusted first
    B. the engine should be under heavy load
    C. the engine should be cold
    D. the main needle valve should be adjusted first

16. Crankcase oil in a small gasoline engine should be changed:

    A. when the engine is thoroughly heated
    B. when the engine is cold to prevent burns
    C. only if there is a drain plug on the engine
    D. when the oil level drops to the "add" level

17. If a spark plug has a weak spark and the observed spark between the spark-plug wire and the cylinder head is blue-orange color:

    A. the ignition system is faulty
    B. the spark plug is faulty
    C. the spark
    D. both A and C are correct

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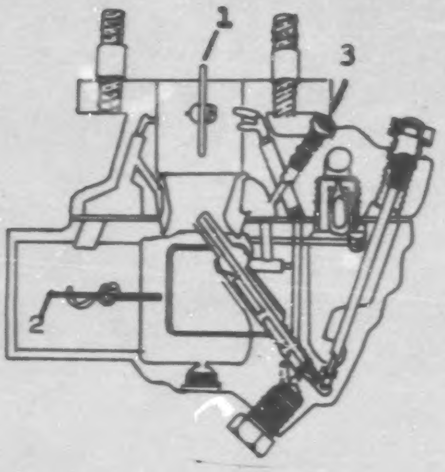

18. From the above diagram of the cross section of a carburetor, no. 2 is called the:

    A. choke plate
    B. main mixing chamber
    C. float bowl
    D. throttle plate

19. If the main needle valve is turned to a lean mixture, the engine will:

    A. give off black smoke
    B. miss
    C. "flood-out"
    D. both A and B are correct

20. From this same diagram number 3 is used to adjust:

    A. idle speed
    B. idle gas-air ratio
    C. the main gas-air ratio
    D. float level

21. When servicing air cleaners on lawn mowers or chain saws:

    A. the spark-plug wire should be disconnected first
    B. the filter element should always be replaced
    C. petroleum solvents should be used to clean the filter
    D. both A and B are correct

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22. A MS classification on a can of oil stands for:

    A. most severe conditions
    B. multiple standard
    C. motor severe
    D. motor sealant

23. Care must be taken to select the correct replacement sparkplug because:

    A. a cold plug under heavy load conditions will overheat quicker
    B. hot plugs will stay cleaner under light load conditions
    C. a cold plug will foul with carbon under heavy load conditions
    D. both A and C are correct

END OF TEST

TABLE: 1-10 S
AREA: Agricultural Production
TEST NO.: 1-10
KUDER-RICHARDSON 20: .237
KUDER-RICHARDSON 21: .159
N(tests) =48

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	D	.563	-.233	-.101	-16.7
2.	C	.646	.685	.362	40.5
3.	A	.604	.818	.487	54.8
4.	B	.625	.685	.336	40.5
5.	C	.604	.760	.417	47.6
6.	B	.583	.891	.339	64.3
7.	C	.646	-.440	.038	-31.0
8.	A	.750	.800	.522	50.0
9.	C	.396	.918	.323	59.5
10.	C	.771	.339	-.052	14.3
11.	B	.833	.426	.004	21.4
12.	A	.813	.426	.131	21.4
13.	C	.708	.696	.262	35.7
14.	C	.646	.383	.200	26.2
15.	D	.438	.750	.170	45.2
16.	A	.833	.426	.328	21.4
17.	B	.438	.440	.309	31.0
18.	A	.708	-.673	-.004	-38.1
19.	B	.813	.696	.352	35.7
20.	B	.792	.750	.524	42.9
21.	A	.854	-.339	-.015	-19.0
22.	C	.833	.426	.212	21.4
23.	B	.875	.637	.277	28.6
24.					
25.					
26.					
27.					
28.					
29.					
30.					

TABLE: 1-10 A
AREA: Agricultural Production
TEST NO.: 1-10
KUDER-RICHARDSON 20: .594
KUDER-RICHARDSON 21: .534
N(tests) = 118

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	D	.373	.440	.250	28.8
2.	C	.669	.413	.294	29.8
3.	A	.475	.869	.411	54.7
4.	B	.458	.685	.306	37.3
5.	C	.466	.750	.323	42.2
6.	B	.508	.969	.515	72.7
7.	C	.415	.951	.593	69.0
8.	A	.525	.935	.500	65.7
9.	C	.203	.790	.387	40.8
10.	C	.703	.707	.313	34.9
11.	B	.653	.876	.450	54.5
12.	A	.788	.625	.292	24.1
13.	C	.585	.649	.339	34.3
14.	C	.636	.750	.336	42.7
15.	D	.407	.673	.261	35.5
16.	A	.517	.911	.422	62.4
17.	B	.585	.094	.079	5.9
18.	A	.542	.718	.304	39.8
19.	B	.661	.818	.428	49.0
20.	B	.788	.637	.262	28.2
21.	A	.881	-.047	-.065	-1.8
22.	C	.856	-.078	-.027	-3.9
23.	B	.847	.125	.075	4.1
24.					
25.					
26.					
27.					
28.					
29.					
30.					

AREA: AGRICULTURAL PRODUCTION

Unit: Electric Motors -- Selection and Maintenance

Student Performance Objectives

The student should be able to:

1. For the various types of motors, provide maintenance services which are recommended to keep motors in a safe and efficient operating condition.

2. Using a dual voltage, reversible motor, correctly change the voltage and direction of the motor according to the manufacturer's recommendations.

3. Using a chart of motor types and characteristics, select a motor which fits its job in the following characteristics:

   A. motor type
   B. starting load
   C. horsepower
   D. motor speed
   E. motor duty
   F. motor bearings
   G. motor enclosure
   H. motor mounting

4. For a given piece of equipment to be powered by an electric motor, select the kind and size of drive which will operate the equipment within the recommended speeds.

5. For a given motor and power application, select an overload protection device according to the standards of the National Electrical Code.

AREA: AGRICULTURAL PRODUCTION

Unit: Electric Motors - Selection and Maintenance (1-11)

1. Electric motors with sealed bearings should:

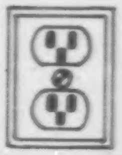
   A. be lubricated twice a year
   B. be lubricated once every two years
   C. never be lubricated
   D. none of the above

2. On a dual voltage motor, voltage can be changed by:

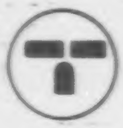
   A. switching the terminal plate connection wires to series or parallel wiring
   B. turning the plug over which will result in a voltage drop
   C. adding a voltage adapter
   D. shortening the brushes

3. On which of the following outlets (circuits) pictured below would most power suppliers permit the use of a 1/2 horsepower motor:

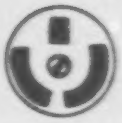
A.



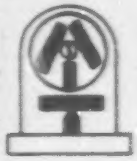
C.



B.



D.



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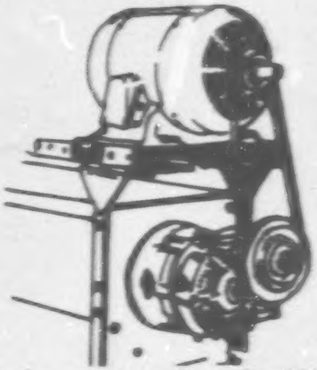
4. The type of drive shown in the diagram below is an example of:

   A. direct drive
   B. speed conversion drive
   C. gear drive
   D. none of the above



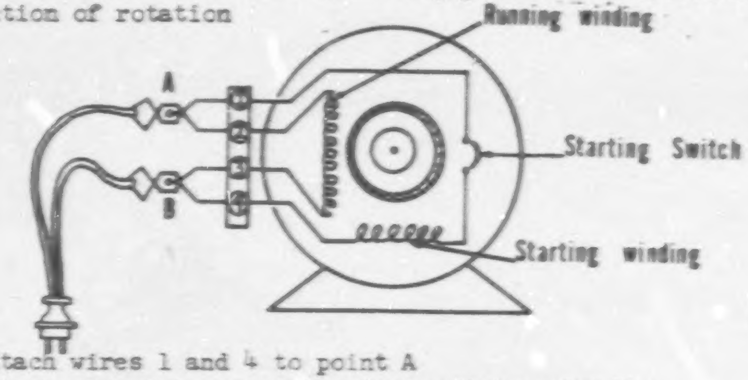
5. The factor which is of greatest concern when deciding the type of control and overload protection needed for a motor is:

   A. duty rating
   B. voltage limit
   C. motor size
   D. RPM

6. Motors with sleeve bearings lubricated by the oil wick method:

   A. must be lubricated less often than oil-soaked yarn lubricated bearings
   B. must be lubricated more often than bearings using an oil ring for lubrication
   C. Do not have to be lubricated but once every two years
   D. never have to be lubricated

7. If a split phase, single voltage motor is wired as shown in the sketch below, which of the following procedures will reverse the direction of rotation



   A. attach wires 1 and 4 to point A
   B. attach wire 3 to point A and wire 2 to point B
   C. attach wire 3 to point A and wire 1 to point B
   D. attach wire 2 to point B and wire 4 to point A

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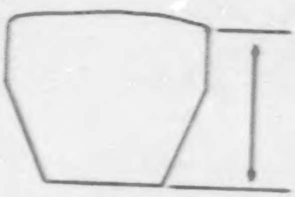
8. "Capacitor start" refers to:

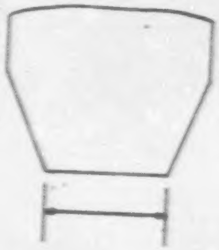
A. speed ranges
B. motor type
C. horsepower needed for starting
D. voltage needed for starting

9. Which of the diagrams below shows the proper location for determining the size of a V-Belt.

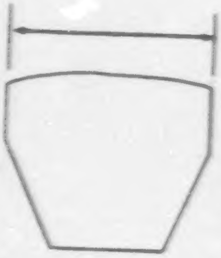
A.



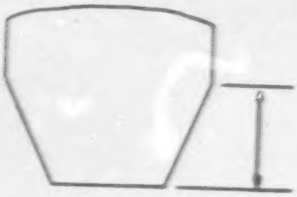
C.



B.



D.



10. Excessive current will flow to a motor if:

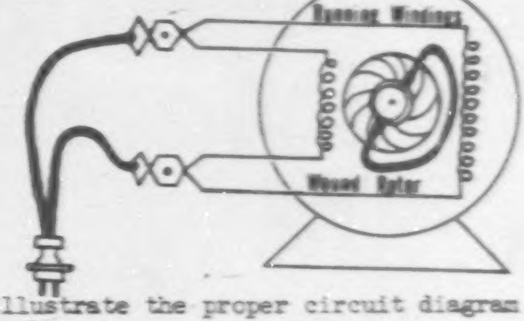
A. load is too heavy
B. voltage is high
C. voltage is low
D. A and C are both correct

11. Motors that are operated in the presence of explosive gases require an enclosure which is:

A. drip proof
B. splash proof
C. totally-enclosed
D. A and B are both correct

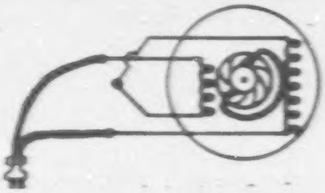
GO TO NEXT PAGE

12. In the diagram below the dual voltage repulsion - start motor is wired for 120 volts operation

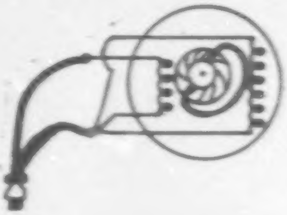


Which of the following illustrate the proper circuit diagram for this motor to operate at 240 volts?

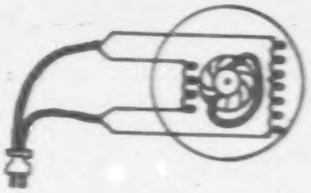
A.



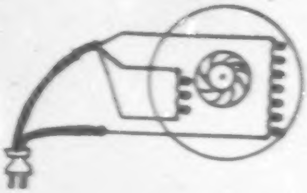
C.



B.



D.



13. Which of the motors listed below is not designed for easy starting loads:

A. split phase
B. permanent split, capacitor-induction
C. shaded-pole induction
D. capacitor-start induction run

14. A V-Belt that is best for use with pulleys that are 2 1/2 inches and less in diameter is a:

A. a
B. c
C. fhp
D. d

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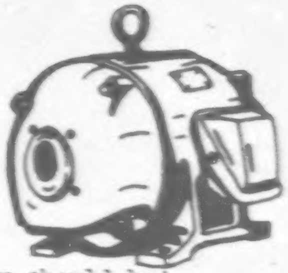
15. A motor overload protection device should be selected so it will provide for temporary overload of 15 percent but not more than:

A. 18 percent
B. 35 percent
C. 20 percent
D. 25 percent

16. The type of motor enclosure illustrated below is a:

A. drip proof
B. splash proof
C. dust proof
D. leak proof



17. Using the chart below, what diameter equipment pulley should be used for a speed of 1400 rpm with a 4" motor pulley?

Diam. Motor Pulley (inches)	DIAMETER OF PULLEY ON EQUIPMENT (INCHES)									
	EQUIPMENT SPEED (RPM)									
	1-1/4	1-1/2	1-3/4	2	2-1/4	2-1/2	3	4	5	6-1/2
1-1/4	1725	1435	1230	1075	950	850	715	540	430	330
1-1/2	2075	1725	1475	1290	1140	1030	850	645	515	395
1-3/4	2400	2000	1725	1500	1340	1200	1000	750	600	460
2	2775	2290	1970	1725	1530	1375	1145	850	685	530
2-1/4	3100	2580	2200	1930	1725	1550	1290	965	775	595
2-1/2	3450	2870	2460	2150	1900	1725	1435	1075	850	660
3	4140	3450	2950	2580	2290	2070	1725	1290	1070	800
4	5500	4575	3950	3450	3060	2775	2295	1725	1375	1060
5	6850	5750	4920	4300	3825	3450	2865	2150	1725	1325
6-1/2	8950	7475	6400	5600	4975	4430	3730	2790	2240	1725
8	____	9200	7870	6900	6125	5520	4600	3450	2750	2120
10	____	____	9850	8620	7670	6900	5750	4300	3450	2650
12	____	____	____	____	9200	8280	6900	5160	4130	3180
15	____	____	____	____	____	____	8635	6470	5170	3970
18	____	____	____	____	____	____	____	7750	6200	4770

A. 3 inches
B. 4 inches
C. 5 inches
D. 2 1/2 inches

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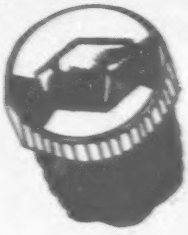
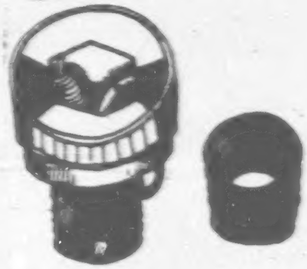
18. Which of the time-delay fuses shown below is designed to be "tamper-proof":

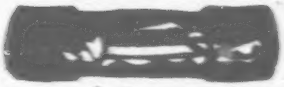
A.



C.

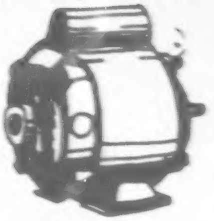


B.



D. none of the above

19. The motor type shown below is a:



A. split phase
B. shaded-pole induction
C. capacitor start
D. repulsion start

20. If your motor - driven equipment runs at a speed of less than 200 rpm which of the following should be used to help reduce the speed?

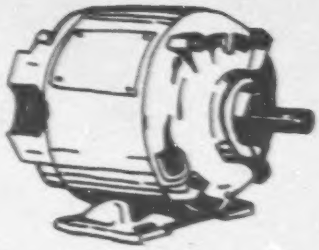
A. a flat belt drive
B. a longer V-Belt
C. a jackshaft
D. a wider grooved pulley

21. In a 0 - 1/2 hp motor the type of control and overload protection which could be used is:

A. manual starting switch with overload protection
B. built in overload protection in the motor
C. magnetic starting switch with overload protection
D. all of the above

GO TO NEXT PAGE

22. The motor enclosure illustrated below is called a:



A. splash proof
B. leak proof
C. totally enclosed
D. open drip proof

23. If you have a 7 1/2 hp or larger motor operating on a single-phase power, you may be required by your power supplier to get a:

A. magnetic starter
B. built in overload protection device
C. current limiting type starter
D. higher voltage starter

24. Which of the following is not a factor to consider when selecting a motor?

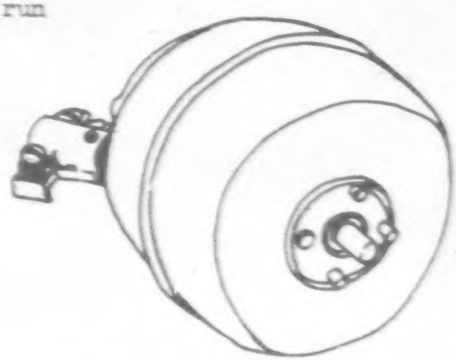
A. duty rating
B. motor speed
C. motor type
D. none of the above

25. A motor that is used to start light loads but will draw 6 to 8 times its normal running current while starting is a:

A. three phase
B. repulsion - start, induction run
C. split-phase
D. capacitor-start, capacitor run

26. The motor shown below used primarily for starting easy loads on a 120 volt service and frequently found on a fan or blower is a:

A. capacitor start, induction run
B. shaded-pole induction
C. three phase
D. split phase



END OF TEST

TABLE: 1-11 S
AREA: Agricultural Production
TEST NO.: 1-11
KUDER-RICHARDSON 20: .506
KUDER-RICHARDSON 21: .402
N(testss) = 38

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	C	.211	.976	.690	70.0
2.	A	.368	.861	.470	55.0
3.	A	.395	.969	.565	71.7
4.	B	.395	.861	.448	51.7
5.	C	.921	-.047	-.065	-1.7
6.	B	.684	-.063	-.011	-3.3
7.	B	.658	.063	-.046	3.3
8.	B	.579	.790	.350	46.7
9.	B	.921	-.047	-.065	-1.7
10.	D	.789	.294	-.008	15.0
11.	C	.289	.976	.569	70.0
12.	A	.684	.413	.341	30.0
13.	D	.579	.413	.416	30.0
14.	C	.395	-.031	.130	-1.7
15.	D	.474	.685	.327	36.7
16.	B	.789	-.673	-.269	-33.3
17.	C	.474	.969	.539	73.3
18.	C	.500	.994	.654	81.7
19.	C	.368	.969	.589	71.7
20.	C	.474	.924	.425	61.7
21.	D	.579	.309	.168	20.0
22.	D	.921	-.047	-.035	-1.7
23.	C	.789	-.094	-.109	-5.0
24.	D	.447	.661	.376	35.0
25.	C	.789	-.249	-.109	-13.3
26.	B	.474	.411	.212	26.7
27.					
28.					
29.					
30.					

TABLE: 1-11 A
AREA: Agricultural Production
TEST NO.: 1-11
KUDER-RICHARDSON 20: .730
KUDER-RICHARDSON 21: .707

N(tests) = 18

Item	Correct Option	Relative Diffi-culty	Phi Coeff-icient	Point Biserial Coefficient	Discrim-ination Index
1.	C	.389	.729	.428	40.0
2.	A	.444	.729	.210	40.0
3.	A	.389	-.339	.017	-20.0
4.	B	.667	.339	.239	20.0
5.	C	.778	.637	.221	20.0
6.	B	.667	-.637	-.159	-20.0
7.	B	.611	.898	.523	60.0
8.	B	.833	.930	.807	60.0
9.	B	.611	.000	.702	100.0
10.	D	.667	.339	.133	20.0
11.	C	.389	.930	.505	60.0
12.	A	.667	.729	.213	40.0
13.	D	.444	.994	.588	80.0
14.	C	.444	.729	.361	40.0
15.	D	.667	-.339	-.186	-20.0
16.	B	.722	.994	.718	80.0
17.	C	.556	.898	.521	60.0
18.	C	.667	.898	.585	60.0
19.	C	.444	.898	.462	60.0
20.	C	.611	.729	.445	40.0
21.	D	.556	.994	.496	80.0
22.	D	.667	.729	.266	40.0
23.	C	.611	.000	.188	00.0
24.	D	.611	.729	.523	40.0
25.	C	.778	.729	.402	40.0
26.	B	.444	.729	.210	40.0
27.					
28.					
29.					
30.					

AREA: AGRICULTURAL PRODUCTION

Unit: Controlling Insects in Farm Crops

Student Performance Objectives

The student should be able to:

1. Given plant specimens damaged by insects, recognize the source of the damage, either on sight or by using selected references, for the insects that commonly cause significant economic losses in the area.

2. Given live insects, insect specimens, or colored scale pictures of insects for identification, correctly identify the main insect that attack the major crops grown in the area.

AREA: AGRICULTURAL PRODUCTION

Unit: Controlling Insects in Farm Crops
(1-13)

1. Damage to corn by the European corn borer is done primarily during the:

   A. egg stage
   B. larva stage
   C. pupa stage
   D. adult stage

2. The adults of corn rootworms feed on:

   A. corn silks
   B. corn roots
   C. corn stalks
   D. corn leaves

3. The adult of the seed corn maggot is a:

   A. butterfly
   B. moth
   C. fly
   D. beetle

4. If you should accidently spill some pesticide concentrate on yourself, you should immediately:

   A. consult the label to see if an antidote is suggested
   B. remove contaminated clothing and wash thoroughly
   C. telephone a doctor for instructions
   D. contact the local poison control center

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5. The lower leaves of a corn plant wilt followed by wilting of the entire plant. The plant later turns white. The most probable cause of this damage is:

A. chinch bugs
B. cutworms
C. armyworms
D. wireworms

6. Spray volume per minute may change due to:

A. worn nozzle tips
B. increased ground speed
C. decreased ground speed
D. amount of chemical in the tank

7. A farmer notices that his corn plants are stunted and that the plants can be pulled easily from the ground. The most probable cause of this type of damage is:

A. seed corn maggots
B. armyworms
C. white grubs
D. black cutworms

8. A farmer growing a late maturing hybrid of corn observed that the silks of the corn were being chewed off at the ear tips which was preventing pollination. He also noticed shiney, metallic appearing green beetles in the field. The most probable cause of the damage to his corn is:

A. green stink bugs
B. june beetles
C. japanese beetles
D. flea beetles

9. Of the following insect control procedures, the most effective for the hessian fly include:

A. spraying with malathion
B. delaying wheat planting until after the fly free date
C. planting resistant plant varieties
D. both B and C are correct
E. all of the above are correct

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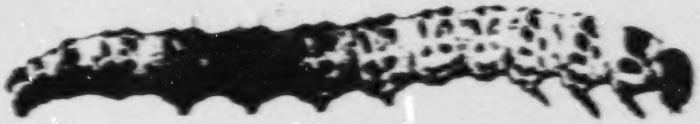

10. The insect pictured above varies in color from yellow to white. Its common name is:

    A. sod webworm
    B. cutworm
    C. wireworm
    D. northern corn rootworm

11. During warm weather stored grain should be inspected for presence of insects every:

    A. day
    B. 7 days
    C. 30 days
    D. 60 days

12. Alfalfa weevil damage is:

    A. caused only by the larvae
    B. only a threat to the first growth of alfalfa
    C. limited primarily to the alfalfa plant
    D. both A and C are correct

13. Empty pesticide containers should be:

    A. sent to the local dump or incinerator
    B. thoroughly cleaned and recycled
    C. saved for future use
    D. buried or burned away from people and animals

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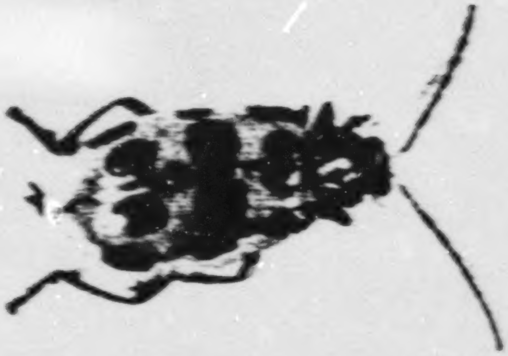

14. The insect pictured above is greenish yellow with black spots. It is an adult:

    A. northern corn rootworm
    B. click beetle
    C. southern corn rootworm
    D. armyworm

15. Of the following insect pests of corn the one that is normally found in the soil is the:

    A. european corn borer
    B. chinch bug
    C. wireworm
    D. cutworm

16. The adults of wireworms are:

    A. chinch bugs
    B. striped cucumber beetles
    C. moths
    D. click beetles

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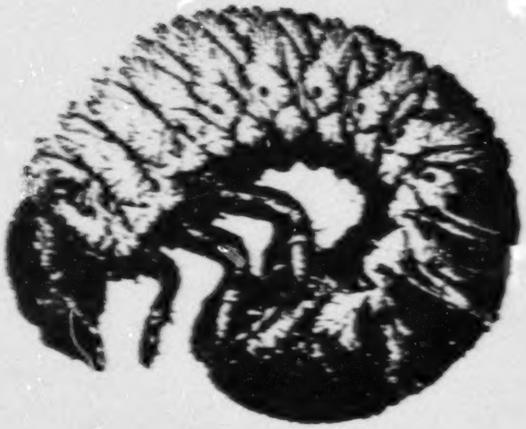

17. The insect larva pictured above will develop into a shiny, metallic appearing dark green to brown adult beetle - the common name of the adult is:

    A. june beetle
    B. may beetle
    C. seed corn beetle
    D. japanese beetle

18. Pesticides should be stored:

    A. in their original containers only
    B. in a cool, dry place where they will not freeze
    C. in a building or cabinet which is always locked
    D. all of the above

19. Aphids:

    A. have chewing mouthparts
    B. feed on plant sap
    C. secrete honey dew
    D. both B and C are correct

20. A farmer notices that his soybean plants have a silvered and bleached appearance with small black dots on the leaves. The most probable cause of the damage is:

    A. spider mites
    B. thrips
    C. green stink bugs
    D. tarnished plant bugs

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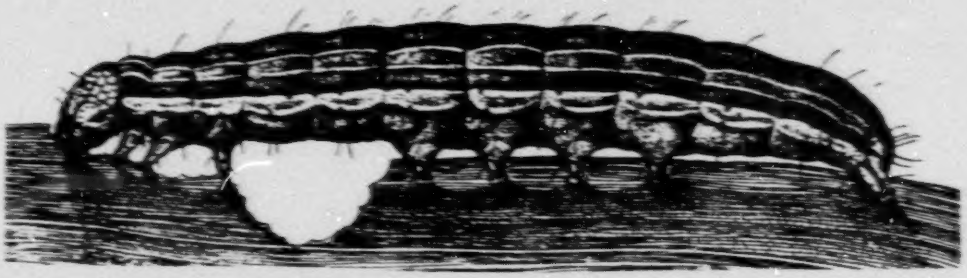
21. The first step in preparing to use a pesticide is to:

A. put on your rubber gloves and respirator
B. clean the spray tank with hot soapy water
C. read the pesticide label
D. make sure the sprayer nozzles are not clogged



22. The insect in the above diagram is in the:

A. egg stage
B. larva stage
C. pupa stage
D. adult stage

23. The common name of the insect in the previous diagram is:

A. northern corn rootworm
B. southern corn rootworm
C. armyworm
D. cutworm

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24. Which of the following factors does not affect the eventual spray application rate per acre?

A. pressure and delivery of the pump
B. volume of the tank
C. speed of forward travel
D. nozzle size

25. Of the following cultural control methods, those recommended for european corn borer include:

A. planting resistant hybrids
B. deep, clean plowing
C. planting as early as possible
D. both A and B are correct
E. all of the above are correct

26. If the beetle population of corn rootworms is high one year, the best control method for the next year is to:

A. apply a foliar insecticide
B. use a soil insecticide
C. plant corn earlier
D. chop stalks before plowing

27. A cultural control program for preventing damage to soybeans by seed corn maggots could include:

A. delaying planting until after the first generation has pupated
B. using resistant hybrids
C. deep plowing
D. both A and B are correct

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28. A fungus disease causes heavy losses to chinch bug populations if the weather is favorable. This is an example of:

A. chemical insect control
B. biological insect control
C. mechanical insect control

29. A farmer notices that a substantial number of corn plants in his field are cut off at the soil surface or slightly above. The most probable cause of this type of damage:

A. black cutworm
B. wireworm
C. clay backed cutworm
D. either A or C is correct
E. all of the above are correct

30. The crop most severely damaged by cereal leaf beetles is:

A. corn
B. wheat
C. oats
D. rye

31. If insecticides are used to control alfalfa weevils, they should be applied:

A. when two or more larvae are counted per plant and 50 - 75 percent of the plants show damage
B. early to avoid destroying parasitic wasps
C. to kill the adults before egg laying
D. both A and C are correct
E. all of the above are correct

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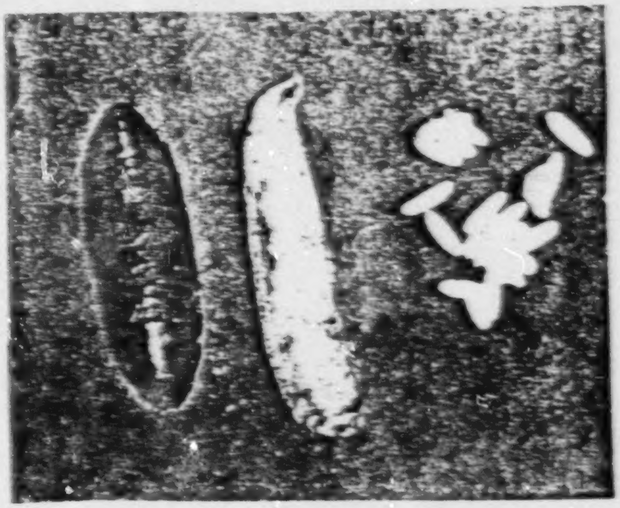
32. Of the following stored grain insects, the one which attacks whole kernels of grain, eating out the inside and leaving the hull, is the:

A. saw-toothed grain beetle
B. cadelle
C. granary weevil
D. confused flour beetle



33. The pupa, larva, and eggs pictured above are:

A. green cloverworms
B. seed corn maggots
C. stink bugs
D. armyworms

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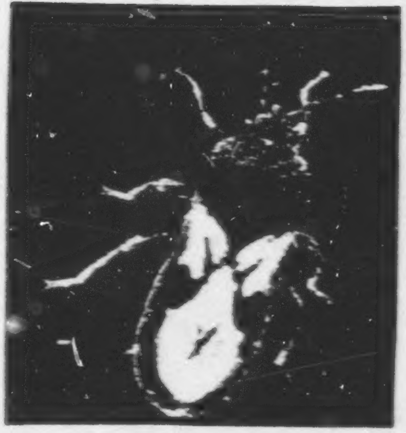
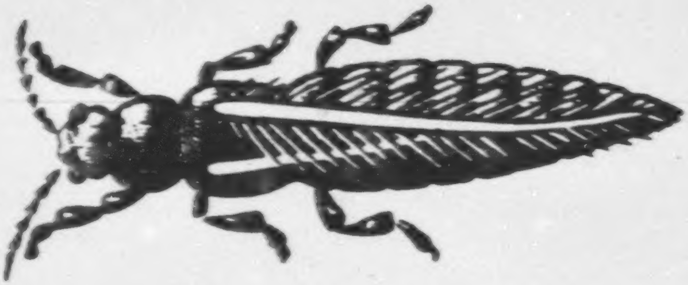


34. The insect pictured above is black and white with red legs and antennae. Its common name is:

A. blister beetle
B. bean leaf beetle
C. tarnished plant bug
D. chinch bug



35. The insect pictured above is grayish-black in color and approximately 1/25 of an inch long. Its common name is:

A. potato leaf hopper
B. meadow spittlebug
C. spider mite
D. thrip

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36. Select the best in-field adjustment to reduce spray volume:

A. increasing operation pressure
B. lowering operation pressure
C. changing pumps
D. shortening the spray boom

37. The southern corn rootworm is the larva of the:

A. japanese beetle
B. chinch bug
C. 12-spotted cucumber beetle
D. striped blister beetle

38. To control wireworms in fields that have been in grass or sod for several years before planting to corn, it is recommended to:

A. apply insecticides before planting
B. plant early
C. fall plow
D. both A and C are correct

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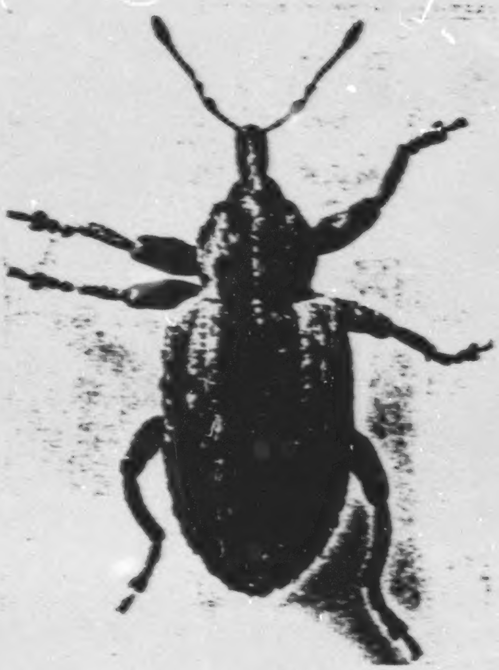

39. The adult insect pictured above is approximately 3/16 of an inch in length - its color varies from brown to black with lighter markings. Its common name is:

A. alfalfa weevil
B. cereal leaf beetle
C. granary weevil
D. cadelle

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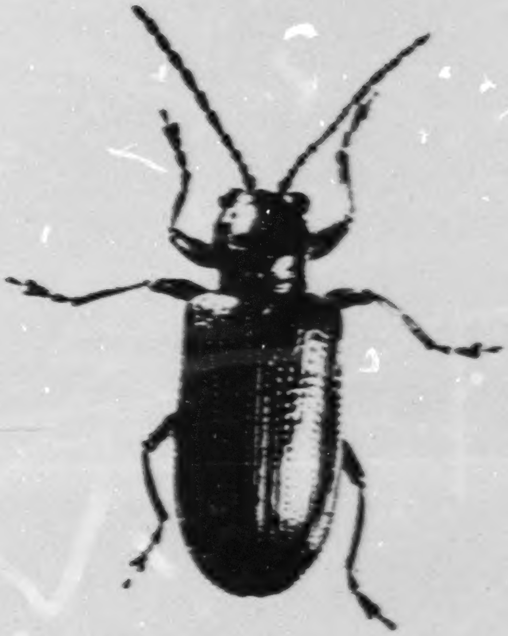

40. The adult insect pictured above has metallic blue-black wings and the legs and underneath part of the thorax are red. Its common name is:

A. rice weevil
B. alfalfa weevil
C. cereal leaf beetle
D. bean leaf beetle

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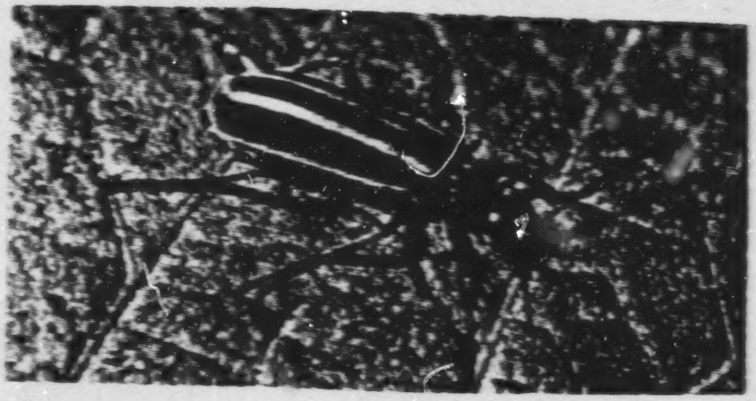
41. Armyworm populations are kept down to a certain extent by parasites. Among these parasites are:

A. some species of flies
B. some species of aphids
C. a species of small wasps
D. both A and C are correct



42. The insect pictured above is black and gray and often feeds on grasshopper eggs. Its common name is:

A. blister beetle
B. seed corn beetle
C. click beetle
D. bean beetle

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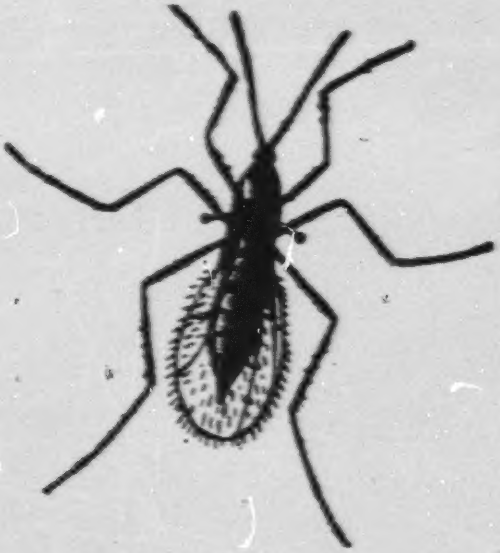
43. The names tomato fruitworm, tobacco budworm, and cotton bollworm all refer to the same insect. This insect is the:

A. corn earworm
B. green cloverworm
C. southern corn rootworm
D. wireworm

44. A successful cultural method of controlling grasshopper damage to corn and soybeans is to:

A. increase blister beetle numbers which prey on the grasshoppers
B. plant early
C. plow deep in the spring
D. fall plow and disk



45. The insect diagrammed above lays its eggs on the leaves of wheat plants. The female adult has a red tinged abdomen. Its common name is:

A. wheat jointworm
B. hessian fly
C. wheat stem sawfly
D. seed corn maggot

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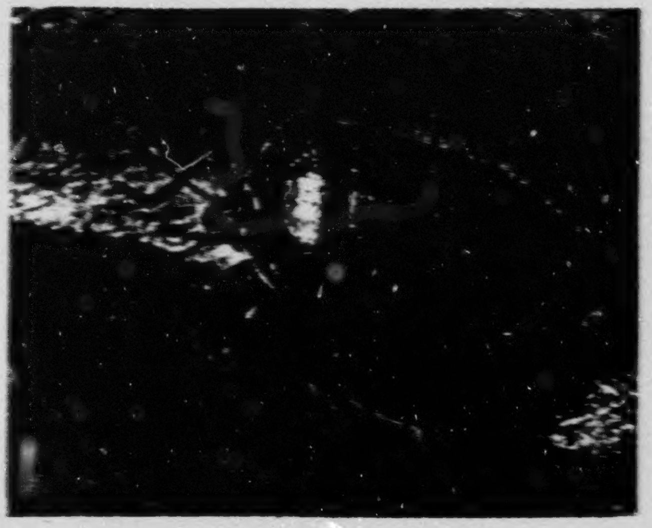

46. The insect pictured above is green in color. It is about 1/2 inch long and 1/4 inch wide. Its common name is:

A. japanese beetle
B. june beetle
C. chinch bug
D. green stink bug

47. Control of cereal leaf beetles is accomplished through the use of:

A. quarantines to prevent spread of the insect
B. fumigants to control infestations in some commodities
C. insecticides to control the adult population
D. both A and B are correct
E. all of the above are correct

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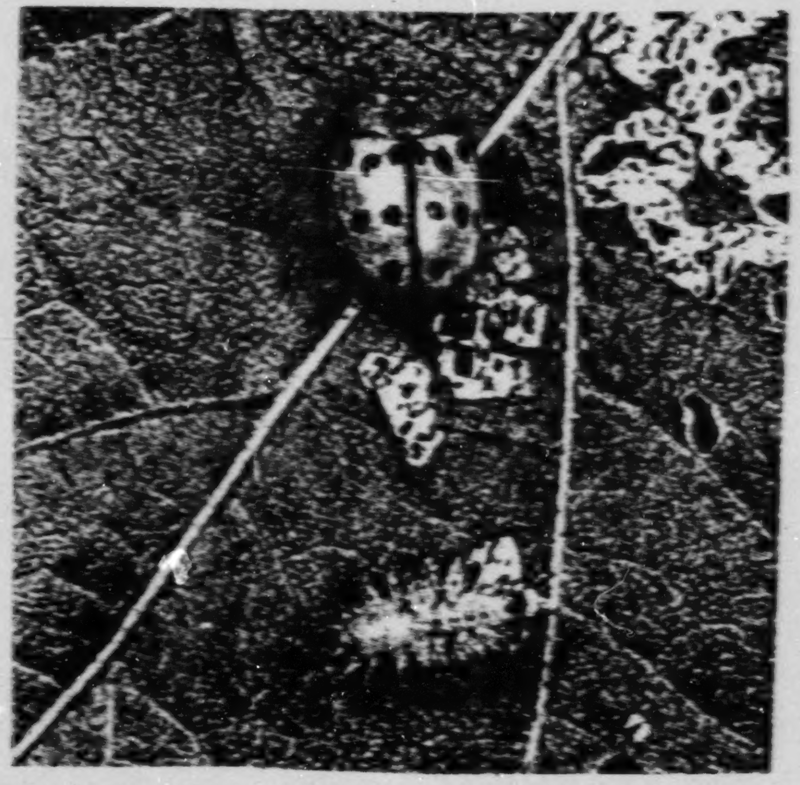
48. The best method of controlling insect pests in stored grains is:

A. to use good preventative practices
B. to use fumigants
C. to use insecticides
D. through the use of quarantines



49. The adult insect pictured above is yellow to coppery brown with black spots. Its common name is:

A. blister beetle
B. Mexican bean beetle
C. tarnished plant bug
D. click beetle

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50. For most effective fumigation of stored grain, the moisture content should be less than:

A. 15 percent
B. 20 percent
C. 24 percent
D. 30 percent

END OF TEST

TABLE: 1-13 A
AREA: Agricultural Production
TEST NO.: 1-13
KUDER-RICHARDSON 20: .733
KUDER-RICHARDSON 21: .683
N(tests) = 68

Item	Correct Option	Relative Diffi-culty	Phi Coeff-icient	Point Biserial Coefficient	Discrim-ination Index
1.	B	.456	.696	.385	38.2
2.	A	.706	.930	.625	64.5
3.	C	.515	.368	.135	23.7
4.	B	.[illegible]24	.911	.450	58.2
5.	A	.809	.649	.463	29.5
6.	A	.412	.760	.396	43.2
7.	C	.574	.440	.304	28.7
8.	C	.544	.853	.304	53.9
9.	D	.721	.411	.256	24.2
10.	A	.956	-.454	-.246	-15.8
11.	C	.441	.898	.424	58.4
12.	C	.897	-.156	-.046	-5.5
13.	D	.338	.935	.482	63.4
14.	C	.735	.836	.505	49.5
15.	C	.632	.047	-.001	3.2
16.	D	.824	-.218	-.013	-11.3
17.	D	.485	.809	.396	48.7
18.	D	.265	.760	.339	43.2
19.	D	.500	.637	.236	33.4
20.	B	.676	.426	.221	28.4
21.	C	.265	.740	.472	37.4
22.	B	.485	.809	.425	48.4
23.	C	.662	.411	.192	24.2
24.	B	.294	.649	.299	32.6
25.	D	.779	-.110	-.010	-6.3
26.	B	.691	.233	.173	13.9
27.	A	.941	.141	.021	4.7
28.	B	.397	.960	.571	68.7
29.	D	.603	.729	.360	39.2
30.	C	.882	.141	-.060	4.7

TABLE: 1-13 A
AREA: Agricultural Production
TEST NO.: 1-13

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	E	.750	.818	.387	44.7
2.	C	.471	.637	.283	32.9
3.	B	.441	.279	.169	17.6
4.	D	.735	-.031	-.063	-1.3
5.	D	.721	.294	.186	18.6
6.	B	.456	.760	.351	43.4
7.	C	.647	.853	.489	53.9
8.	D	.456	.426	.268	27.6
9.	A	.471	.760	.273	43.9
0.	C	.765	.264	.098	14.2
1.	D	.647	.294	.245	18.4
2.	A	.588	.770	.401	44.2
3.	A	.897	.249	.186	9.7
4.	D	.735	-.203	-.058	-11.8
5.	B	.294	.707	.406	37.9
6.	D	.485	.696	.371	38.4
7.	D	.868	.339	.092	14.7
8.	A	.632	.218	.130	13.4
9.	B	.485	.696	.274	38.2
0.	A	.397	.353	.108	22.9

AREA: AGRICULTURAL PRODUCTION

Unit: Determining Fertility Needs

Student Performance Objectives

The student should be able to:

1. When given a crop to be grown, determine the yield goal of the crop based on the yield potential of the soil type of the field according to agronomy standards for the local area.

2. Using the needed soil sampling equipment, collect a representative soil sample of a field and prepare for testing in a manner and in accordance with recommendations prescribed by the teacher, county agricultural agent or personnel of the soil testing laboratory.

3. Using a soil test report from the soil testing laboratory and using the calculating procedures recommended by the teacher, county extension agent or personnel of the soil testing laboratory calculate the nutrients available in the soil with accuracy.

4. When given the previous crop grown on a field, calculate the nutrients supplied by the crop residue according to agronomy data for crop residue fertility.

5. When given the amount and kind of manure applied to a field, calculate the nutrients supplied by the manure according to published data on livestock waste fertility.

6. When presented with the yield goal of a crop to be grown, the amount and kind of nutrients supplied by the soil, manure and crop residues, determine the amount and kind of additional nutrients required by the plants and which will be supplied by supplemental fertility materials.

AREA: AGRICULTURAL PRODUCTION

Unit: Determining Fertility Needs (1-14)

1. Of the following soil properties, those of greatest importance when determing the yield potential of a field are:

   A. surface texture and subsoil pH
   B. soil color and number
   C. slope and available water
   D. both A and C are correct

2. A fertilizer material with the analysis of 4-16-8 has:

   A. 16 pounds of nitrogen in each bag
   B. 16% of the fertilizer material is available phosphate
   C. 16% potassium in each 100 pound bag
   D. 4 times as much potassium as it does nitrogen

3. In order to get a representative soil sample, soil from any unusual areas of the field (such as dead furrows, old manure and lime piles) should:

   A. be included in the sample in as nearly the same proportion as these unusual areas are represented in the total field
   B. not be included in the sample at all
   C. be sampled more heavily than usual areas because they need special attention
   D. be mixed with soil from other areas after both have been aired dry

4. Materials such as ground limestone provides calcium to plants as well as:

   A. increase harmful concentrations of aluminum manganese and iron
   B. lower the pH level of alkaline (sweet) soils
   C. increase the pH level of acid soils
   D. result in poorer soil structure and tilth

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5. A fertilizer with the analysis of 4-16-8 has a major nutrient ratio of:

   A. 1:2:1
   B. 0:4:2
   C. 2:8:4
   D. 1:4:2

6. When planning the sampling procedure for a field, recommended guidelines would suggest:

   A. taking 15 or more core samples from each major area which differs in crop growth, core soil color or past management
   B. take one core sample from each major area which differs in crop growth, soil color or past management
   C. where row crops are planted, take the samples in the crop row from about 15% of the rows
   D. take 15 or more samples in the rows of row crops at the plow depth level

7. A soil test recommendation states the following additions of fertilizer be applied per acre for maintenance fertility: 85 pounds of nitrogen, 40 pounds of phosphorus, and 40 pounds of potassium. A 10-10-10 grade fertilizer is used to apply the total phosphorus and potassium. How much urea (45-0-0) would have to be added yet to bring the nitrogen application up to recommendation?

   A. 40 pounds
   B. 45 pounds
   C. 90 pounds
   D. 100 pounds

8. If a soil test indicates a need for 32 pounds of phosphate, this could be supplied by applying:

   A. 200 pounds of 8-8-16
   B. 200 pounds of 4-16-8
   C. 500 pounds of 8-16-16
   D. 200 pounds of 0-16-16

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9. When preparing soil samples for processing by the laboratory, 15 soil cores taken from one major area should:

   A. be packaged into 15 separate mailers
   B. mixed with distilled water and mailed in plastic mailers
   C. be air dried and mixed together into a composite before being placed in a mailer
   D. be dried in hot oven to make sure all disease organisms are killed before processing

10. The chemical symbol P_2O_5 refers to the more common names of:

   A. phosphate
   B. potash
   C. potassium
   D. both B and C are correct

11. The approximate amount of soil which is usually adequate for a laboratory analysis of nutrient levels of one major soil area is:

   A. 1/2-1 pint
   B. 1 quart
   C. 1 quart to 1 gallon
   D. 1 cubic foot

12. The soil that is most likely to respond with greatest crop increases by adding fertilizer is one which has:

   A. a high magnesium level
   B. a low pH
   C. a low fertility level
   D. very low levels of calcium

13. When collecting a soil sample to determine the need for fertilizer, the best tool to use is a:

   A. hoe
   B. spade
   C. auger
   D. probe

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14. The pH of the soil refers to:

A. the concentration of nitrogen ions in the soil solution
B. the degree of acidity or alkalinity of the soil
C. hydrolisis of water in the soil
D. the ratio of calcium to sulfur in the soil

15. When using lime on a soil to correct acidity, a primary consideration should be the affect the lime will have on:

A. the change in soil structure and drainage
B. the availability of fertilizer nutrients
C. soil microorganisms and insects
D. the effectiveness of pesticides applied to the soil

16. Which of the following would be used to raise soil pH?

A. calcium carbonate
B. aluminum sulfate
C. fertilizer
D. iron sulfate

17. In a 50 pound bag of fertilizer having an anlysis of 15-10-5, how many pounds of phosphorus are present?

A. 15
B. 10
C. 5
D. 20

18. To add a supply of sulfur and calcium to the soil but not significantly change the pH, one would add:

A. dolomitic limestone
B. gypsum
C. calacitic limestone
D. flowers of sulfur

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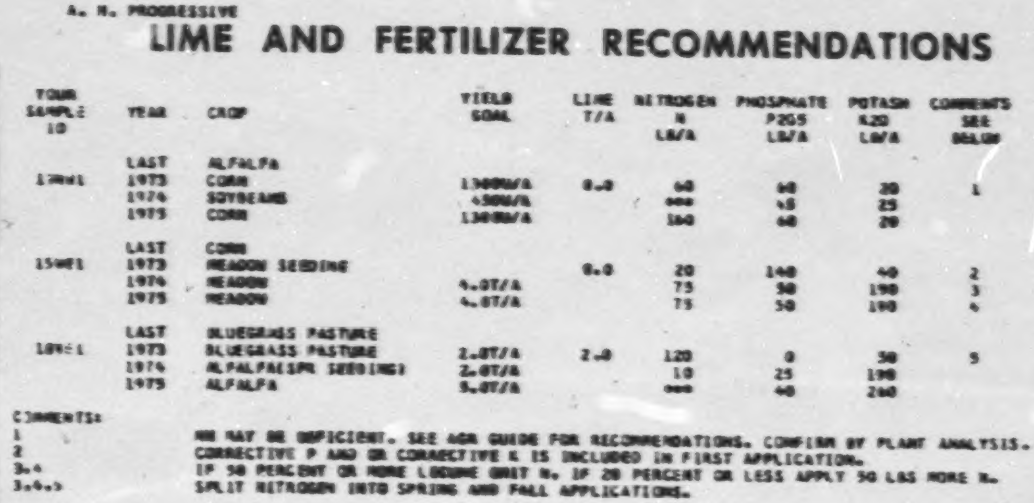
19. Phosphorus contributes greatly to:

A. stalk strength
B. root development
C. vegetative growth
D. flowering

20. How many pounds of actual nitrogen are contained in a 50 pound bag of 10-6-4 fertilizer?

A. 6 pounds
B. 5 pounds
C. 10 pounds
D. 20 pounds

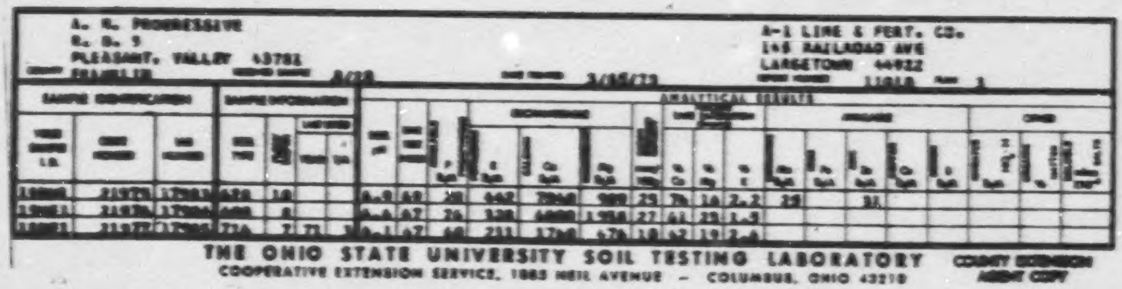


A. N. PROGRESSIVE

LIME AND FERTILIZER RECOMMENDATIONS

YOUR SAMPLE ID	YEAR	CROP	YIELD GOAL	LIME T/A	NITROGEN N LB/A	PHOSPHATE P2O5 LB/A	POTASH K2O LB/A	COMMENTS SEE BELOW
	LAST	ALFALFA						
13WH1	1973	CORN	130BU/A	0.0	60	60	20	1
	1974	SOYBEANS	45BU/A		***	45	25	
	1975	CORN	130BU/A		160	60	20	
	LAST	CORN						
15WE1	1973	MEADOW SEEDING		0.0	20	140	40	2
	1974	MEADOW	4.0T/A		75	50	190	3
	1975	MEADOW	4.0T/A		75	50	190	4
	LAST	BLUEGRASS PASTURE						
10WE1	1973	BLUEGRASS PASTURE	2.0T/A	2.0	120	0	50	5
	1974	ALFALFA(SPR SEEDING)	2.0T/A		10	25	190	
	1975	ALFALFA	5.0T/A		***	40	260	

COMMENTS:
1 MN MAY BE DEFICIENT. SEE AGR GUIDE FOR RECOMMENDATIONS. CONFIRM BY PLANT ANALYSIS.
2 CORRECTIVE P AND OR CORRECTIVE K IS INCLUDED IN FIRST APPLICATION.
3,4 IF 50 PERCENT OR MORE LEGUME OMIT N. IF 20 PERCENT OR LESS APPLY 50 LBS MORE N.
3,4,5 SPLIT NITROGEN INTO SPRING AND FALL APPLICATIONS.



A. N. PROGRESSIVE
R. D. 5
PLEASANT, VALLEY 43781
FRANKLIN

A-1 LIME & FERT. CO.
145 RAILROAD AVE
LARGETOWN 44922

ANALYTICAL RESULTS

THE OHIO STATE UNIVERSITY SOIL TESTING LABORATORY
COOPERATIVE EXTENSION SERVICE, 1885 NEIL AVENUE — COLUMBUS, OHIO 43210

COUNTY EXTENSION AGENT COPY

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21. When interpreting the lime test index as indicated on the preceding page of laboratory recommendations, the lower the index:

A. the lower the lime requirement
B. the higher the soil fertility
C. the higher the calcium-magnesium ratio
D. the higher the lime requirement

22. Soil pH on the laboratory recommendation refers to:

A. the active acidity or alkalinity in the soil
B. the lime requirements of the indicated crop and yield goal
C. the cation exchange capacity of the soil
D. the total acidity in the soil

23. In the lime and fertilizer recommendation, 2 ton of lime/acre is required to raise the pH of the mineral soil in field 18 NE1 to:

A. 4.7
B. 7.0-7.5
C. 5.0-5.5
D. 6.5

24. To meet the fertilizer recommendation for field 19 NW1 for the 1975 corn crop and assuming a silt loam soil the farmer could:

A. make a fall application of 300 lb/A of anhydrous ammonia (33-0-0) and apply 200 lb/A of 6-24-12 at planting
B. make a fall application of 300 lb/A of anhydrous ammonia (33-0-0) and apply 400 lb. of 5-20-20 at planting
C. make a fall application of 300 lb/A of urea (45-0-0) and apply 300 lb/A of 10-20-10 at planting
D. make a fall application of 150 lbs/A urea (45-0-0) and apply 300 lb/A of 10-20-10 at planting

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25. To meet the fertilizer recommendation for field 18 NE1 for the 1975 alfalfa crop, the farmer could apply:

A. 3 applications of a special blend of 0-10-60 analysis at the rate of 145 lb/acre per application
B. 3 applications of 5-20-20 analysis at the rate of 210 lb/acre per application
C. 2 applications of 0-20-20 analysis at the rate of 150 lb/acre per application
D. 2 applications of a special blend of 0-20-40 analysis at the rate of 200 lb/acre per application

26. Of the following soil nutrients, those which are classified as micronutrients include:

A. potassium, calcium, boron
B. potassium and phosphorous
C. magnesium and boron
D. zinc and nitrogen

TABLE 85—Percentage Nitrogen Remaining Under Various Storage Systems

Storage System	Percent Nitrogen Remaining After Storage and Spreading
Bedded building, solid spreading	70
Open lot, solid storage, solid spreading	40
Aerobic lagoon, irrigation or liquid spreading	40
Deep pit storage, liquid spreading	30
Anaerobic lagoon, irrigation or liquid spreading	20
Oxidation ditch, anaerobic lagoon storage, irrigation or liquid spreading	20

27. The manure excreted by 50 cows in 365 days contains 9,000 lbs. of nitrogen. Assuming the open lot, solid storage, solid spreading system is used and the entire amount is spread on a 40 acre field, the amount of nitrogen applied per acre is:

A. 60 lbs/acre
B. 70 lbs/acre
C. 80 lbs/acre
D. 90 lbs/acre

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28. The manure excreted by 300 head of beef feeders is spread every three months. The feeders produce manure with a total of 3,200 pounds of nitrogen per month and deep pit storage with liquid spreading. Using the table on page 7 as a reference, what is the amount of nitrogen applied to a 20 acre field at the end of one three month period?

A. 125 lb/A
B. 145 lb/A
C. 165 lb/A
D. 185 lb/A

END OF TEST

TABLE: 1-14 A
AREA: Agricultural Production
TEST NO.: 1-14
KUDER-RICHARDSON 20: .829
KUDER-RICHARDSON 21: .815

N(tests) = 110

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	D	.382	.827	.378	49.3
2.	B	.573	.905	.520	60.3
3.	B	.455	.969	.596	72.8
4.	C	.364	.696	.377	37.1
5.	D	.345	.844	.468	52.2
6.	A	.700	.696	.388	35.3
7.	D	.745	.800	.474	44.3
8.	B	.591	.141	.042	8.6
9.	C	.427	.891	.504	58.1
10.	A	.645	.780	.392	44.9
11.	A	.591	.800	.462	48.2
12.	C	.564	.941	.560	66.5
13.	D	.273	.911	.491	58.6
14.	B	.536	.956	.468	69.3
15.	B	.527	.770	.384	45.4
16.	A	.582	.836	.493	51.1
17.	C	.545	.718	.373	39.5
18.	B	.791	.454	.342	25.7
19.	B	.573	.094	.066	5.7
20.	B	.691	.918	.565	59.7
21.	D	.673	.426	.329	26.5
22.	A	.655	.924	.540	63.2
23.	D	.591	.956	.576	69.7
24.	C	.600	.750	.304	41.7
25.	A	.645	.673	.331	36.0
26.	C	.473	.869	.477	55.1
27.	D	.600	.707	.363	39.2
28.	B	.682	.884	.556	57.2
29.					
30.					

AREA: AGRICULTURAL PRODUCTION

Unit: Drying Farm Crops

Student Performance Objectives

The student should be able to:

1. When given a specific farm crop, determine the moisture content of the crop within ± 2% through visual examination of the crop or by using devices designed to measure moisture content of the specific farm crops.
2. When given a specific farm crop to be dried and a list of available drying equipment and facilities, select the facilities and equipment that will provide optimum drying conditions for the crop.
3. When given specific drying facilities and equipment for a specific type of farm crop, operate and maintain the system according to manufacturer's recommendations.

Unit: Drying Farm Crops (Grain)
(1-15)

1. The moisture content in mature corn is normally:

   A. 24 - 26%
   B. 30 - 32%
   C. 38 - 40%
   D. 44 - 46%

2. The maturity line on the back side of corn kernels:

   A. moves upward toward the top of the kernels as the corn ripens
   B. gets darker as the corn ripens
   C. moves downward toward the tip of the kernels as the corn ripens
   D. both A and B are correct

3. Electric moisture meters are more accurate:

   A. when moisture content in the grain is low (under 25%)
   B. when smaller samples are used
   C. when moisture content in the grain is high
   D. when larger samples are used

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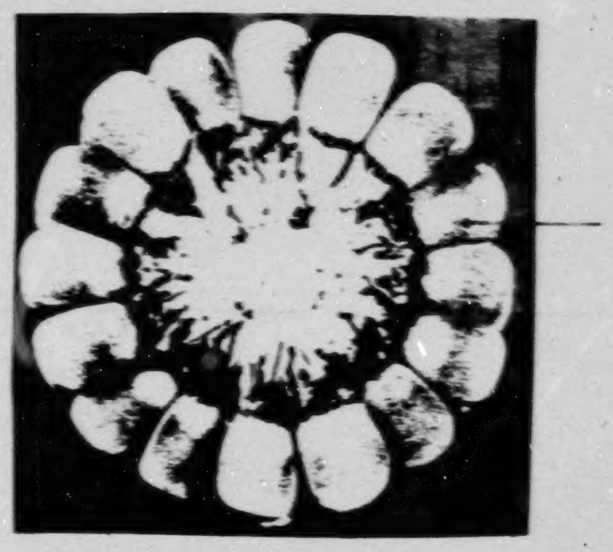

4. The arrow in the above diagram is pointing to a characteristic of corn kernels used to help determine stage of maturity. It is called:

   A. a germ
   B. the maturity line
   C. the dent line
   D. the moisture line

5. When drying ear corn with a heated-air drying system in warm weather, the dryer should be operated:

   A. in the daytime only
   B. day and night
   C. at night only
   D. with only the fan running

6. When drying ear corn in a crib, a farmer determines that the exhaust air is warmer than the supply air. This indicates that the corn.

   A. is drying correctly
   B. is not drying and the heat supply should be increased
   C. is heating
   D. is drying and the heat supply should be reduced

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7. Of the following systems, which can be used for drying shelled corn?

   A. in-storage layer drying
   B. batch drying
   C. continuous-flow drying
   D. all of the above

8. Cooling grain after drying is completed will help prevent:

   A. moisture migration
   B. insect damage
   C. top sweating
   D. both A and C are correct

9. A column batch drying system for drying shelled corn is usually not economical unless the annual corn crop is at least:

   A. 6,000 bu.
   B. 8,000 bu
   C. 10,000 bu.
   D. 12,000 bu.

10. A continuous-flow dryer will handle shelled corn with a moisture content of:

   A. 18 - 30 percent
   B. 12 - 18 percent
   C. 30 - 40 percent
   D. both A and B are correct

11. The least expensive type of blower for a grain drying system is the:

   A. forward curved centrifugal type
   B. straight blade centrifugal type
   C. propeller type
   D. vane axial type

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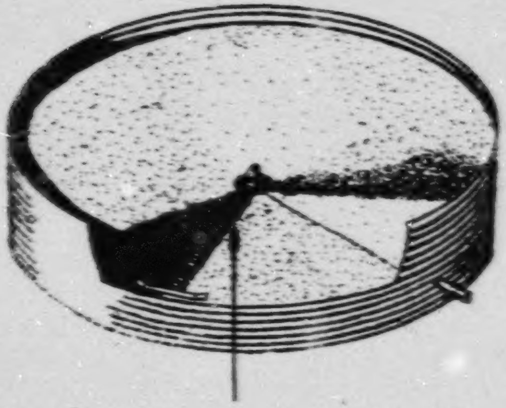
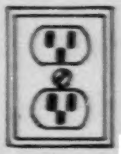


12. The arrow in the above diagram is pointing to a:

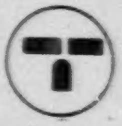
A. vertical auger
B. sweep auger
C. unloader auger
D. portable auger

13. On which of the following outlets (circuits) pictured below would most power suppliers permit the use of a 1/2 horsepower motor:

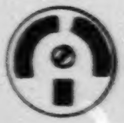
A.



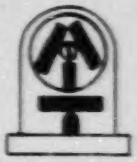
C.



B.



D.



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14. Which of the motors listed below is not designed for easy starting loads:

    A. split phase
    B. permanent split, capacitor-induction
    C. shaded-pole induction
    D. capacitor-start induction run

15. The formula for determing moisture content of a grain crop on the wet basis is:

    A. $\text{percent moisture} = \frac{\text{weight of moisture}}{\text{weight of the sample}} \times 100$
    B. $\text{percent moisture} = \frac{\text{weight of moisture}}{\text{weight of dry matter}} \times 100$
    C. $\text{percent moisture} = \text{weight of moisture} \times \text{weight of dry matter}$
    D. $\text{percent moisture} = \frac{\text{weight of moisture}}{100} \times 100$

16. Of the following, the most reliable visual indicators of judging corn maturity and moisture content are:

    A. dented grains and tightness of kernels on the cob
    B. concave germs on corn kernels and tightness of kernels on the cob
    C. drying of leaves and yellowing of shucks
    D. both A and B are correct

17. The greatest advantage of using electric moisture meters is:

    A. their greater accuracy than ovens or oil testers
    B. the short period of time required to test a sample
    C. lower cost of the equipment
    D. both B and C are correct

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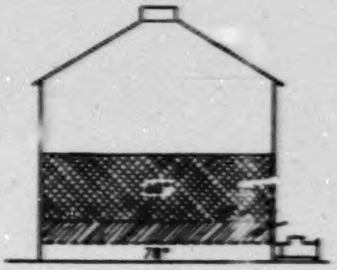
18. As the procedure for testing moisture in grain varies between different types and brands of meters, the person testing the moisture in grain samples should:

A. only use a meter he has used before
B. always read the directions concerning use of the specific meter being used
C. periodically check the meter being used to assure its accuracy
D. both B and C are correct



19. The arrow in the above diagram is pointing to the:

A. saturated zone
B. drying zone
C. infiltration zone
D. aerating zone

20. The usual method of determining the levels of dry grain and wet grain in a bin is by:

A. taking samples and testing the moisture at different levels
B. feeling the temperature changes on the outside of the bin
C. measuring the temperature of different levels in the bin
D. either A or B is correct

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AIR DELIVERY AND HP REQUIREMENTS OF 3 FANS AGAINST VARIOUS STATIC PRESSURES

Fan Number	Dia. (Inches)	HP	Air Volume (CFM) at Indicated SP*				
			1	2	3	4	5
1	24	5	11,050	9,600	7,500	5,200	
2	24	7 1/2	13,200	11,650	9,800	7,200	
3	28	10	19,400	17,300	15,100	12,800	9,500

*Static Pressure in inches of water

21. A farmer wants to dry 1500 bushels of ear corn using 10 CFM of air per bushel. Assuming the corn has a static pressure of 2 inches, which fan in the above table should the farmer select?

A. number 1
B. number 2
C. number 3
D. there is not enough information given to select the proper fan

22. "Capacitor start" refers to:

A. speed ranges
B. motor type
C. horsepower needed for starting
D. voltage needed for starting

23. A simple test for locating the drying front in a partially filled bin of shelled corn is to:

A. feel for differences in temperature on the side of the bin
B. push a stick or rod into the corn and note the depth at which the rod penetrates more easily
C. use a probe to obtain samples of corn at different levels and perform a moisture test
D. there is no simple test for locating the drying front

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24. Drying temperatures for batch drying should be regulated at:

A. 90° - 100° F
B. 110° - 130° F
C. 140° - 160° F
D. 160° - 180° F

25. From the listed temperatures, the maximum allowable temperature when drying grain to be used for milling purposes is:

A. 90° - 100° F
B. 110° F
C. 140° F
D. 180°- 200° F

26. From the listed temperatures, the maximum allowable temperature for drying grain to be used for feed purposes is:

A. 90° - 100° F
B. 110° F
C. 140° F
D. 180° - 200° F

27. From the listed temperatures, the maximum allowable temperature for drying seed is:

A. 90° - 100° F
B. 110° F
C. 140° F
D. 180° - 200° F

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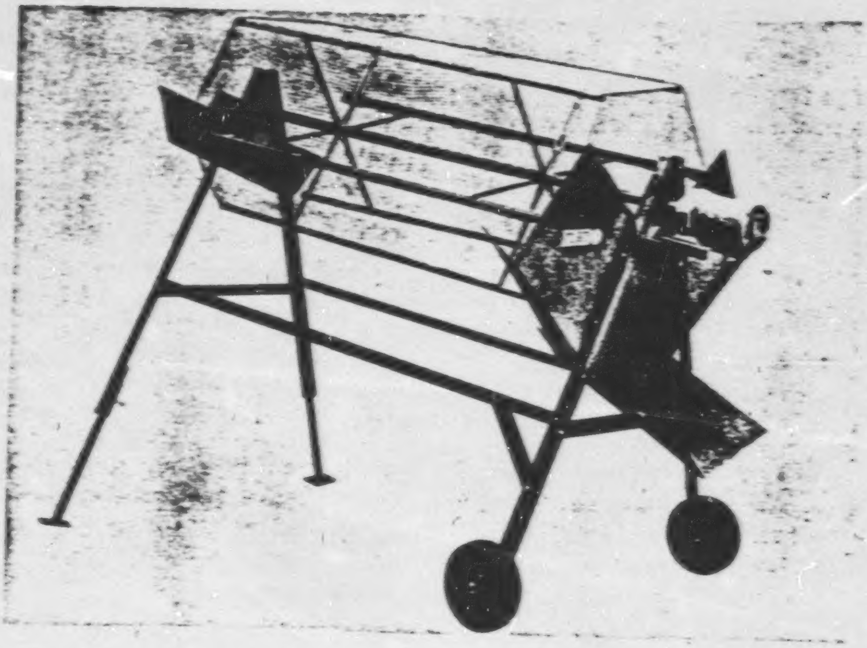

28. The component of a drying system diagrammed above is called a:

A. squirrel cage fan
B. axial flow fan
C. grain cleaner
D. centrifugal grain circulator

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29. Using the chart below, what diameter equipment pulley should be used for a speed of 1400 rpm with a 4" motor pulley?

Diam. Motor Pulley (inches)	DIAMETER OF PULLEY ON EQUIPMENT (INCHES)									
	EQUIPMENT SPEED (RPM)									
	1-1/4	1-1/2	1-3/4	2	2-1/4	2-1/2	3	4	5	6-1/2
1-1/4	1725	1435	1230	1075	950	850	715	540	430	330
1-1/2	2075	1725	1475	1290	1140	1030	850	645	515	395
1-3/4	2400	2000	1725	1500	1340	1200	1000	750	600	460
2	2775	2290	1970	1725	1530	1375	1145	850	685	530
2-1/4	3100	2580	2200	1930	1725	1550	1290	965	775	595
2-1/2	3450	2870	2460	2150	1900	1725	1435	1075	850	660
3	4140	3450	2950	2580	2290	2070	1725	1290	1070	800
4	5500	4575	3950	3450	3060	2775	2295	1725	1375	1060
5	6850	5750	4920	4300	3825	3450	2865	2150	1725	1325
6-1/2	8950	7475	6400	5600	4975	4430	3730	2790	2240	1725
8	___	9200	7870	6900	6125	5520	4600	3450	2750	2120
10	___	___	9850	8620	7670	6900	5750	4300	3450	2650
12	___	___	___	___	9200	8280	6900	5160	4130	3180
15	___	___	___	___	___	___	8635	6470	5170	3970
18	___	___	___	___	___	___	___	7750	6200	4770

A. 3 inches
B. 4 inches
C. 5 inches
D. 2-1/2 inches

30. The factor which is of greatest concern when deciding the type of control and overload protection needed for a motor is:

A. duty rating
B. voltage limit
C. motor size
D. RPM

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31. The moisture content level that is usually required to prevent grain quality loss due to molds, insects, etc. is:

A. 20 - 22%
B. 18 - 20%
C. 14 - 16%
D. 12 - 14%

32. Use of ovens or oil testers for determining the moisture content of grain crops are:

A. indirect methods of moisture testing
B. the most accurate testing methods
C. the fastest testing methods
D. the most frequently used testing methods

33. The maximum length of time that should be allowed between sampling and testing corn if an electric moisture meter is being used is:

A. 2 - 4 hours
B. 6 - 8 hours
C. 10 - 12 hours
D. 16 - 18 hours

34. Grain drying systems in which no heat is added to the air to aid the drying process are called:

A. forced-air drying systems
B. supplemental heat drying systems
C. high pressure drying systems
D. slow drying systems

35. Of the following, the advantage of unheated-air drying is:

A. can dry wetter grain
B. high drying capacity per fan
C. very low fire hazard
D. short drying time

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36. An unheated forced air drying system for shelled corn in which the in-storage layering process is used:

A. is a relatively fast drying method
B. will handle shelled corn with 28-32% moisture
C. is not economical for handling over 4,000 bushels of corn annually
D. both B and C are correct

37. A motor overload protection device should be selected so it will provide for temporary overload of 15 percent but not more than:

A. 18 percent
B. 35 percent
C. 20 percent
D. 25 percent

38. The use of vertical augers or screws to aid in grain drying:

A. is most advantageous in bin-batch systems
B. is relatively inexpensive
C. often is plagued with equipment failure
D. both A and C are correct

39. Electric motors with sealed bearings should:

A. be lubricated twice a year
B. be lubricated once every two years
C. never be lubricated
D. none of the above

40. In a batch-in-bin drying system:

A. several days of corn harvest are dried together
B. each day's harvest is dried and moved to a storage area
C. approximately 48 hours is required to dry each day's harvest
D. a layer of grain 8 - 12 feet deep is dried each day

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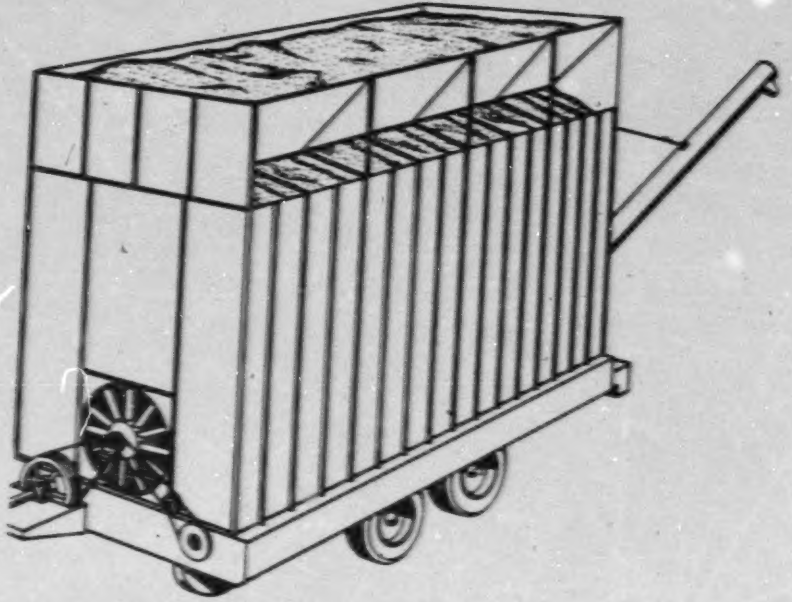

41. The type of drying system pictured above is an example of a:

A. batch-in-bin dryer
B. column batch dryer
C. forced-air dryer
D. continuous flow dryer

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42. Motors that are operated in the presence of explosive gases require an enclosure which is:

A. drip proof
B. splash proof
C. totally-enclosed
D. A and B are both correct

43. Direct fired heat units:

A. are usually less efficient than indirect fired units
B. are usually used with heavier fuels which produce large amounts of fumes and smoke
C. pass fumes and smoke through the grain being dried
D. both A and C are correct

44. A V-Belt that is best for use with pulleys that are 2-1/2 inches and less in diameter is a:

A. a
B. c
C. fhp
D. d

45. Common controls found on drying systems include:

A. thermostats
B. hygrometers
C. humidistats
D. both A and C are correct

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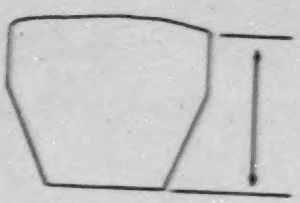
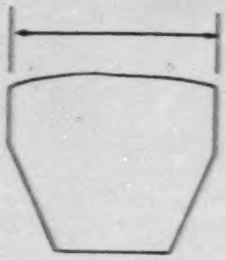
46. Which of the diagrams below shows the proper location for determining the size of a V-Belt.

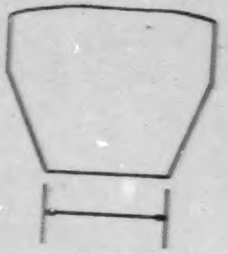
A.



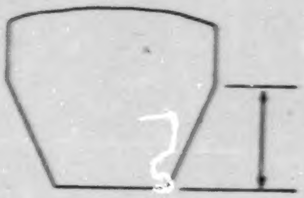
B.



C.



D.



47. Which of the following is not a factor to consider when selecting a motor?

A. duty rating
B. motor speed
C. motor type
D. none of the above

END OF TEST

TABLE: 1-15 A
AREA: Agricultural Production
TEST NO.: I-15
KUDER-RICHARDSON 20: .673
KUDER-RICHARDSON 21: .626

N(tests) = 72

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	B	.694	.426	.152	24.6
2.	C	.514	.047	.023	3.2
3.	A	.764	.249	.155	14.3
4.	B	.500	.905	.399	60.3
5.	B	.764	.339	.161	19.8
6.	C	.681	.661	.261	29.4
7.	D	.222	.911	.591	57.1
8.	D	.319	.780	.368	45.2
9.	C	.569	.696	.307	36.5
10.	D	.639	.411	.212	26.2
11.	C	.556	.047	.083	3.2
12.	B	.319	.827	.407	46.8
13.	A	.333	.426	.266	28.6
14.	D	.708	.264	.187	13.5
15.	A	.597	.637	.314	31.7
16.	D	.486	.696	.307	37.3
17.	B	.764	-.016	-.129	-0.8
18.	D	.458	.861	.495	54.8
19.	B	.500	.930	.476	65.1
20.	C	.778	.156	.084	8.7
21.	C	.694	.078	.012	4.8
22.	B	.736	.411	.233	25.4
23.	B	.806	.780	.295	33.3
24.	B	.667	.750	.275	42.1
25.	C	.667	.707	.297	35.7
26.	D	.875	.047	.085	1.6
27.	B	.736	.411	.279	25.4
28.	C	.236	.413	.323	27.0
29.	C	.556	.800	.389	48.4
30.	C	.792	.156	.117	7.9

TABLE: 1-15 A
AREA: Agricultural Production
TEST NO.: 1-15

Item	Correct Option	Relative Diffi-culty	Phi Coeff-icient	Point Biserial Coefficient	Discrim-ination Index
1.	D	.681	.094	.034	5.6
2.	B	.639	.172	.115	9.5
3.	C	.833	-.249	-.151	-12.7
4.	A	.514	.844	.434	53.2
5.	C	.292	.861	.475	51.6
6.	C	.694	.411	.179	27.0
7.	D	.764	.078	.071	4.0
8.	D	.708	.790	.340	39.7
9.	C	.431	.203	.093	13.5
0.	B	.625	.411	.221	27.0
1.	D	.736	.965	.524	66.7
2.	C	.389	.818	.434	50.0
3.	C	.708	.339	.193	20.6
4.	C	.597	.696	.298	37.3
5.	D	.444	.844	.445	53.2
6.	B	.750	.249	.201	15.1
7.	D	.361	.397	.211	25.4
48.					
49.					
50.					

AREA: AGRICULTURAL PRODUCTION

Unit: Planning and Establishing Farm Reservoirs

Student Performance Objectives

The student should be able to:

1. When provided with information regarding several possible locations for establishment of the reservoir, select the site most convenient and accessible at the least cost and where the physical properties of the soil are suitable for retaining water in accordance with specifications of soil conservation service technicians.

2. When provided with information in regard to a possible site for establishment of a farm reservoir, determine the maximum water capacity of the reservoir. Calculations are to be made in accordance with recommendations of soil conservation service engineers.

3. When provided with information regarding the site for the establishment of a farm reservoir, determine all of the dimensions required for the dam. Calculations are to be made in accordance with recommendations of soil conservation service engineers.

4. When provided with information regarding a newly established reservoir, determine the number and species of fish to supply, complying with recommendations of wildlife service.

5. When provided with information regarding a newly established pond and the area surrounding the pond, select the equipment needed for providing water to livestock and the farm home according to recommendations of soil conservation service technicains.

6. When provided with information regarding the land surrounding the water area of the reservoir, select the number and species of plants to use according to recommendations of soil conservation and wildlife services.

Unit: Planning and Establishing Farm Reservoirs
(1-18)

1. The dam for a pond should be located so the water will be at least 8 to 10 feet deep over:

   A. 5-10% of the water area
   B. 15-25% of the water area
   C. 30-40% of the water area
   D. 60-65% of the water area

2. Minimum storage requirements of a pond should be computed by estimating the total annual needs and allowing a percentage for seepage, evaporation, and other nonusable requirements. The percentage to allow is approximately:

   A. 5-15%
   B. 20-30%
   C. 30-40%
   D. 40-60%

3. For a dam less than 10 feet high the minimum top width is:

   A. 16 feet
   B. 12 feet
   C. 8 feet
   D. 4 feet

4. A pond's capacity can be estimated by multiplying 0.4 times the:

   A. maximum water depth at the dam
   B. surface area and length
   C. maximum water depth, length and width
   D. surface area and maximum water depth at the dam

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5. A core wall in a dam is:

A. constructed by digging a trench 6 feet deep and backfilling with impervious soil material
B. constructed to prevent seepage water from flowing under the base of the dam
C. constructed to prevent rodent damage to the dam
D. both A and B are correct
E. all of the above are correct

6. In most instances, the most desirable ratio of watershed area to size of pond is:

A. 40 : 1
B. 30 : 1
C. 20 : 1
D. 10 : 1

7. A pond containing one surface acre of water is to be stocked with largemouth bass and bluegills. The number of fingerlings to stock is approximately:

A. 200 large mouth bass and 1,000 bluegill
B. 500 large mouth bass and 500 bluegill
C. 100 large mouth bass and 1,500 bluegill
D. 100 large mouth bass and 300 bluegill

8. The most important consideration when selecting the site for a pond is:

A. the amount of flood reduction downstream
B. adequate storage capacity with the least amount of earth movement
C. size of the contributing watershed
D. location of water use

9. The most economical flood spillway is:

A. a concrete spillway
B. galvanized steel pipe
C. a grassed waterway around the end of a dam
D. either A or C is correct

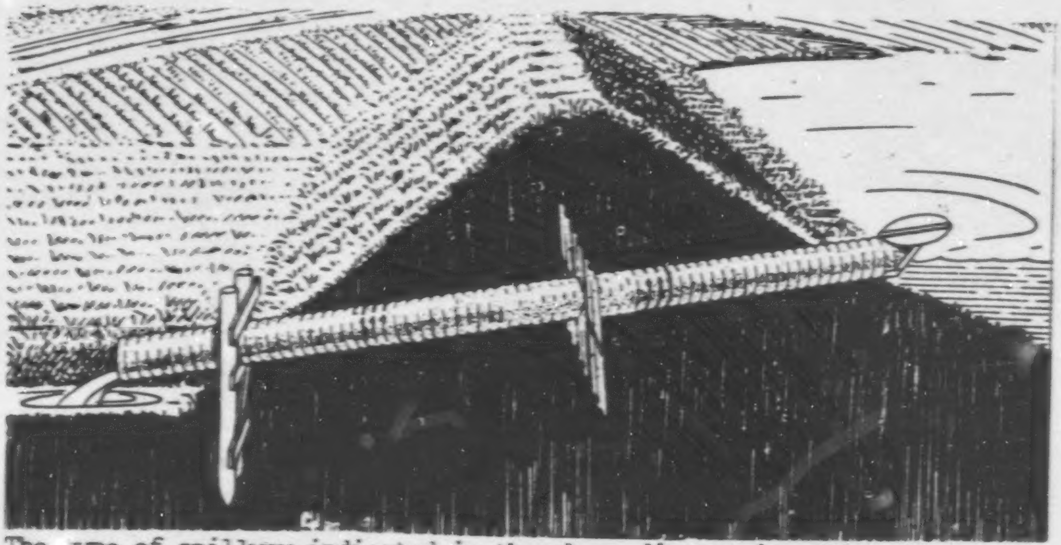
GO TO NEXT PAGE

10. A dam with average soil is designed to be 40 feet high. The side slopes should not be steeper than:

A. A 3:1 (horizontal to vertical) on the upstream face and 2:1 on the downstream side
B. 4:1 on the upstream face and 3:1 on the downstream side
C. 2:1 on the upstream face and 3:1 on the downstream side
D. 3:1 on the upstream face and 5:1 on the downstream side

11. Of the following material, the most desirable for a trickle spillway includes:

A. asbestos cement
B. concrete
C. steel pipe
D. both B and C are correct
E. all of the above are correct



12. The type of spillway indicated in the above diagram is a(n):

A. drop inlet spillway
B. hood inlet spillway
C. open drop spillway
D. fluted spillway

GO TO NEXT PAGE

13. As soon as possible after the pond fill is finished, the pond area should be seeded to:

A. legumes
B. plants with long tap roots
C. a sod grass or standard pasture mixture
D. any of the above

14. Fish species such as Crappies and Bullheads:

A. should only be stocked in ponds in combination with a predator fish species
B. should not be stocked in ponds
C. should be stocked in ponds alone but not in combination with each other
D. should be stocked only if light fishing pressure is expected

15. Channel Catfish:

A. may be stocked alone or with bass and bluegills
B. spawn in ponds prolifically
C. are not recommended for stocking in ponds
D. both B and C are correct

16. The major problems with having too large a watershed for the size of a pond include:

A. rapid sedimentation
B. excessive seepage in the pond
C. erosion of the flood spillway at the dam
D. both A and C are correct

17. The most common species of fish stocked in a warm water pond are:

A. channel catfish and crappies
B. large mouth bass and bluegills
C. large mouth bass and bluegills or redear sunfish
D. small mouth bass and redear sunfish

GO TO NEXT PAGE

18. Land in the watershed of a water impoundment should be:

    A. restricted from grazing
    B. seeded to grasses and legumes
    C. cropped only if appropriate soil conservation practices are used
    D. planted in conifers

19. Freeboard on a dam:

    A. is usually 6 feet
    B. refers to the distance between the bottom of the flood spillway and the top of the dam
    C. refers to the distance between the top of the trickle spillway and the bottom of the flood spillway
    D. is provided so the flood spillway does not have to handle water from small storms

20. The trickle spillway is designed to:

    A. handle flood flows
    B. keep the soil moisture in the flood spillway at a level good for plant growth
    C. maintain the normal water level in the pond
    D. both B and C are correct

21. Fishing for bass and bluegill in a stocked pond should begin:

    A. within 2 months after stocking
    B. after both species have spawned
    C. after the bass have reached 12" in length
    D. three years after stocking

22. A pond is 350 feet long and 150 feet wide. It has an 11 foot depth and 1.5 acres of surface area. The capacity of the pond is:

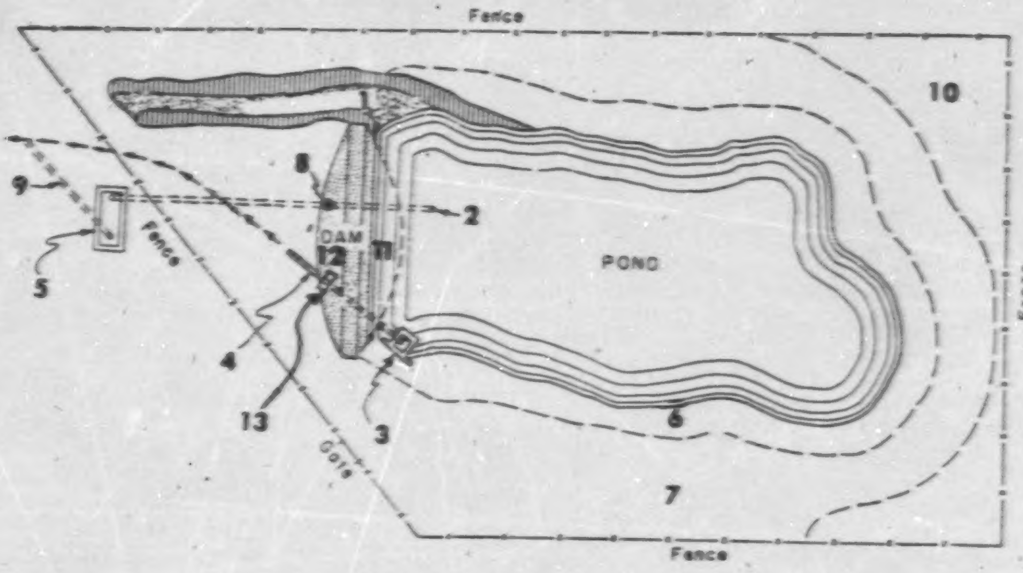
    A. 2.2 acre feet
    B. 4.4 acre feet
    C. 6.6 acre feet
    D. 8.8 acre feet

GO TO NEXT PAGE

23. The dam of a newly constructed pond will settle - for this reason, the dam is constructed approximately:

A. 20 percent higher than the dam
B. 10 percent higher than the dam
C. 5 percent higher than the design
D. 1 percent higher than the design

GO TO NEXT PAGE


Fence
10
9
8
2
DAM
12
11
POND
Fence
5
Fence
4
13
3
6
Gate
7
Fence

Indicate the number from the above diagram which best fits the term or description listed below.

_____ 24. antiseep collar

_____ 25. plant trees here if desired

_____ 26. pipe spillway

_____ 27. stock-water trough

_____ 28. flood spillway

_____ 29. normally limited to a 3:1 slope

_____ 30. pipe-spillway inlet

_____ 31. shut-off valve

_____ 32. plant shrubs here if desired

_____ 33. normally a 2:1 slope

_____ 34. water-pipe inlet

END OF TEST

TABLE: 1-18
AREA: 1-18
TEST NO.:
KUDER-RICHARDSON 20:
KUDER-RICHARDSON 21:

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	B				
2.	D				
3.	C				
4.	D				
5.	B				
6.	D				
7.	A				
8.	B				
9.	C				
10.	A				
11.	E				
12.	B				
13.	C				
14.	B				
15.	A				
16.	D				
17.	C				
18.	C				
19.	B				
20.	D				
21.	B				
22.	C				
23.	C				
24.	A - 13				
25.	A - 10				
26.	A - 4				
27.	A - 5				
28.	A - 1				
29.	A - 11				
30.	A - 3				

TABLE: 1-18
AREA: 1-18
TEST NO.:

Item	Correct Option	Relative Diffi-culty	Phi Coeff-icient	Point Biserial Coefficient	Discrim-ination Index
1.	A - 8				
2.	A - 7				
3.	A - 12				
4.	A - 2				
5.					
6.					
7.					
8.					
9.					
0.					
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
0.					

AREA: AGRICULTURAL PRODUCTION

Unit: Keeping Farm Accounts

Student Performance Objectives

The student should be able to:

1. When given a list of receipts from a farm business, correctly enter the receipts in the appropriate section of a farm account book.
2. When given a list of expenditures, correctly enter expenditures in the appropriate section of a farm account book.
3. When given various production records for a farm business, correctly enter the records in the proper section of a farm account book.

AREA: AGRICULTURAL PRODUCTION

Unit: Keeping Farm Accounts
(1-19)

For questions 1 through 12 refer to the record keeping pages at the end of this test.

1. A 425 lb. sow was sold to Producers' Livestock Association March 3rd for $68.00. The $68.00 would be recorded in column 1 and column:

   A. 16 of cash expenses
   B. 16 of cash receipts
   C. 20 of cash receipts
   D. 25 of cash expenses

2. License plates for the truck were paid March 15th for $38.00 to the License Bureau. This item should be recorded in column _____ of current cash expenses.

   A. 9
   B. 17
   C. 20
   D. 26

3. $175.00 was paid March 5th on the principal of a farm loan for a storage building. The $175.00 should be recorded in column _____ of current cash expenses.

   A. 7
   B. 22
   C. 24
   D. 26

4. The type of record keeping pages shown on pages 6 and 7 are an example of:

   A. single entry
   B. double entry
   C. modified single entry
   D. cash flow budget

GO TO NEXT PAGE

5. A payment on a life insurance policy for oneself would be recorded in column:

A. 23 of cash farm receipts
B. 20 of current cash expenses
C. 22 of current cash expenses
D. 27 of current cash expenses

6. The accuracy of the expenses in this record keeping can be checked by:

A. comparing the total of column 1 with the total of all the other numbered columns summed together
B. comparing the total of the check number column with the total expenditure column (1)
C. comparing cash expenses in columns 1 through 23 with the totals of columns 24 through 27
D. comparing total cash receipts with total cash expenses

7. Expenses for driving the automobile for buying groceries would be listed in column:

A. 1 of current cash expenses
B. 18 of current cash expenses
C. 27 of current cash expenses
D. 1 and 18 of current cash expenses
E. 1 and 27 of current cash expenses

8. Money received for combining the neighbors soybeans would be entered in column:

A. 9 of current cash expenses
B. 6 of cash farm receipts
C. 7 of cash farm receipts
D. 22 of cash farm receipts

9. Long distance telephone calls used to get market information on cattle sales would be recorded in column:

A. 16 of farm receipts
B. 16 of current cash expenses
C. 17 of current cash expenses
D. 27 of current cash expenses

GO TO NEXT PAGE

10. April 7th a Production Credit Association loan of $4,200 was received for purchasing a piece of equipment which will be used for custom work. The loan of $4,200 should be entered in:

A. column 6 of cash farm receipts
B. column 22 of cash farm receipts
C. column 23 of cash farm receipts
D. column 9 of current cash expenses

11. A combine is leased from a machinery dealer for $260.00. This item should be recorded:

A. in column 22 of cash farm receipts
B. in column 9 of cash farm expenses
C. in column 26 of cash farm expenses
D. only in machinery inventory and depreciation schedules

12. January 30th, a payment of $352.00 was made to the U.S. government for payment of income tax. This item should be recorded in:

A. column 5 of cash farm receipts
B. column 8 of cash farm receipts
C. column 20 of current cash expenses
D. column 27 of current cash expenses

13. The reason for keeping the farm expenses separate from family living expenses is:

A. they are considered differently for federal income tax purposes
B. federal law requires they be kept separate
C. to make it easier to budget for family expenses
D. because all farm expenses need to be put on a depreciation shedule; personal expenses do not

14. A method of farm accounting which requires an inventory of crops and livestock because income is based on change of inventory value as well as the cash receipts and expenses is the:

A. cash method
B. accrual method
C. net worth statement
D. enterprise record

GO TO NEXT PAGE

15. What effect on per-acre yield estimates happens if a farmer figures his per-acre yield on 120 acres of crop land when it actually is only 118 because of a road?

A. makes the per-acre yield higher than actual
B. has no effect
C. makes the per-acre yield lower than actual

16. All the items which a person owns which is useful and has a value is called:

A. an asset
B. net worth
C. a liability
D. a capital gain

17. A debt against the farm operator or his business, an amount which is owed is referred to as:

A. a credit
B. depreciation
C. a liability
D. capital loss

18. A listing of all the things owned by the farmer placed in one column and a listing of all the things owed by the farmer in another column, showing the difference between the two is:

A. a net worth statement
B. cash flow sheet
C. a tax estimate worksheet
D. cash accounting

19. A type of record which makes it possible to analyze the expenses and returns of individual crops and types of livestock is known as:

A. net worth statements
B. enterprise records
C. inventory records
D. accrual records

GO TO NEXT PAGE

20. Expenses such as interest, taxes, insurance and depreciation are known as:

A. variable expenses
B. overhead expenses
C. personal expenses
D. capital expenses

21. A farm and family financial budget which shows operating sales, capital sales, operating expenses, capital expenditures, family living expenditures, money borrowed, and repayment of borrowed money for each month of a year is referred to as:

A. net worth statement
B. enterprise records
C. cash accounting
D. cash flow sheet

22. Calculating the amount and value of farm crops in storage would be:

A. a crop inventory
B. a depreciation schedule
C. fixed assets
D. crop enterprise records

GO TO NEXT PAGE

PAGE

CASH FARM RECEIPTS

	A DATE	B MONTH TO WHOM SOLD	C ITEM	D NO.	E WEIGHT	1 AMOUNT RECEIVED	2 CROPS	3 CROPS	4 CROPS	5 GOVERNMENT PAYMENT	6 CUSTOM WORK	7 OPERATOR'S LABOR OFF FARM	8 TAX REFUND, PATRONAGE DIVIDEND	9 MISC.	
1															1
2															2
3															3
4															4
5															5
6															6
7															7
8															8
9															9
10															10
T		TOTALS													T

PAGE

CURRENT CASH EXPENSES

	A DATE	B MONTH FROM WHOM PURCHASED ITEM	C CHECK NO.	1 TOTAL EXPENDITURE	2 HIRED LABOR (SEE PAGE 65-COL. A)	3 SEEDS AND PLANTS	4 FERTILIZER & LIME	5 HERB., PESTICIDES, OTHER CROP SUPPLIES	6 FUEL, OIL AND GREASE	7 DRYING AND STORAGE	8 MACHINERY REPAIRS	9 MACHINE HIRE TRUCKING	10	
1														1
2														2
3														3
4														4
5														5
6														6
7														7
8														8
9														9
10														10
T		TOTALS												T

GO TO NEXT PAGE

CASH FARM RECEIPTS

PAGE

	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
			MILK AND CREAM (SEE PAGE 14-COL. 6)	POULTRY & EGGS	WOOL & OTHER LIVESTOCK PRODUCTS	MARKET LIVESTOCK SALES				RECEIPTS FROM SALE OF ITEMS ELIGIBLE FOR CAPITAL GAINS TREATMENT				NON FARM RECEIPTS (BORROWED & EARNED OFF FARM)	
						HOGS	CATTLE	LAMBS		COWS & BULLS	SOWS & BOARS		MACHINERY & OTHER ITEMS		
						DOLLARS	DOLLARS	DOLLARS	DOLLARS	DOLLARS	DOLLARS	DOLLARS			
1															1
															2
3															3
4															4
5															5
6															6
7															7
8															8
9															9
10															10
T															T

CURRENT CASH EXPENSES

PAGE

	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	
	FEED PURCHASED		LIVESTOCK SUPPLIES	VETERINARY MEDICINE	BRD. FEES REG. FEES MILK TESTING	FEEDER LIVESTOCK PURCHASE	UTILITIES	AUTO EXPENSE	REPAIRS BLDGS. FENCE	TAXES INSURANCE AND RENT		INTEREST ON FARM NOTES & MORTGAGE	MISC.	NON OPERATING EXPENDITURES (NOT INCLUDED AS ANNUAL FARM EXP.)			FAMILY LIVING PERSONAL & NON-FARM EXPENSES	
														DEBT REPAYMENT (PRIN.)	CAPITAL INVESTMENTS			
1																		1
2																		2
3																		3
4																		4
5																		5
6																		6
T																		T

END OF TEST

TABLE: 1-19 A
AREA: Agricultural Production
TEST NO.: 1-19
KUDER-RICHARDSON 20: .619
KUDER-RICHARDSON 21: .535

N(tests) = 30

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	C	.300	.770	.309	42.9
2.	C	.467	.440	.300	28.6
3.	C	.800	-.426	-.186	-14.3
4.	C	.867	.729	.199	28.6
5.	D	.500	.770	.311	42.9
6.	A	.700	.000	.764	100.0
7.	E	.700	.264	.085	14.3
8.	B	.367	.625	.213	28.6
9.	C	.433	.960	.554	71.4
10.	C	.633	.999	.599	85.7
11.	B	.367	.770	.296	42.9
12.	D	.933	-.426	-.247	-14.3
13.	A	.567	.999	.660	85.7
14.	B	.767	.729	.309	28.6
15.	C	.367	.000	.109	00.0
16.	A	.267	.976	.556	71.4
17.	C	.233	.836	.402	42.9
18.	A	.400	.918	.467	57.1
19.	B	.700	.770	.348	42.9
20.	B	.700	.625	.173	28.6
21.	D	.767	.770	.285	42.9
22.	A	.600	.884	.475	57.1
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

AREA: AGRICULTURAL PRODUCTION

Unit: Operation and Care of Small Gasoline Engines

Student Performance Objectives

The student should be able to:

1. Identify the two basic types of small gasoline engines and explain their principles of operation with accuracy needed to differentiate between them.
2. Use the proper procedures for preparing to start and starting a small gasoline engine including refueling to prevent starting troubles and accidents.
3. Operate, adjust engine speed and load, and stop small gasoline engines using procedures which promote optimum engine efficiency and operator safety.
4. Properly clean a small gasoline engine to prevent overheating and excessive wear due to dirt entering the engine.
5. Prepare a small gasoline engine properly for storage of three or more months duration to prevent corrosion and damage.

AREA: AGRICULTURAL PRODUCTION

Unit: Operation and Care of Small Gasoline Engines (1-20)

1. The proper sequence of strokes in a 2-stroke-cycle engine are:

A. (1) power (2) compression (3) intake (4) exhaust
B. (1) intake (2) compression (3) power (4) exhaust
C. (1) power-exhaust-intake (2) compression
D. (1) intake (2) exhaust

2. The number of power strokes per crankshaft revolution on a 2-stroke-cycle engine is:

A. 1
B. 2
C. 3
D. 4

3. The muffler on a 2-stroke-cycle engine is found:

A. at the cylinder-head end of the cylinder
B. at the bottom of the cylinder
C. midway between the cylinder head and the crankcase
D. either B or C is correct depending upon the engine model

4. It is usually more important to regularly clean the exhaust system of a

A. 4-stroke-cycle engine
B. 2-stroke-cycle engine

5. Unless otherwise specified, the proper fuel for a 2-stroke-cycle small gasoline engine is:

A. high test gasoline and SAE 10 detergent oil
B. high test gasoline and SAE 30, non-detergent oil
C. regular-grade gasoline and SAE 30, non-detergent oil
D. regular-grade gasoline and SAE 30, detergent oil

GO TO NEXT PAGE

6. When preparing to start and operate a small gasoline engine, the most important procedure is to:

A. be sure the fuel tank is full
B. remove all loose-fitting clothing
C. read the operator's manual
D. see that the engine is level

7. Which of the following rules should be observed when starting a small gas engine with a rope-rewind starter?

A. hold the engine with one hand while pulling the rope with the other
B. pull the rope briskly all the way to the end
C. release the rope handle when the rope is pulled completely out
D. both A and B are correct

8. A new or rebuilt 2-stroke cycle engine will receive better lubrication during the first few hours of operation if:

A. the carburetor is adjusted for a fairly rich mixture
B. the engine is run at half throttle
C. the carburetor is adjusted for a lean mixture
D. both A and B are correct

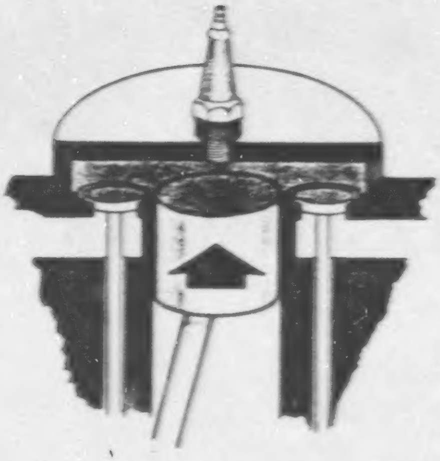
9. When preparing a small gasoline engine for storage, rust preventative may be added to the engine by:

A. squirting the rust preventative into the carburetor intake while the engine is running
B. pouring the rust preventative into the cylinder through the spark plug hole and turning the engine by hand
C. adding the rust preventative to the fuel in the fuel tank
D. adding the rust preventative to the crankcase oil
E. both A and B are correct

10. A chain saw engine is an example of a small gasoline engine with a:

A. vertical crankshaft
B. horizontal crankshaft
C. multi-position crankshaft
D. variable crankshaft

GO TO NEXT PAGE



11. The engine in the above diagram is:

    A. a 4-stroke-cycle engine
    B. an external combustion engine
    C. a 2-stroke-cycle engine
    D. on the compression stroke

12. The fuel-air mixture enters a 2-stroke-cycle engine cylinder through a(an):

    A. reed valve
    B. intake valve
    C. venturi
    D. port

13. If when cranking a small gas engine there is resistance caused by compression felt only on every other revolution, it is a:

    A. 2-stroke-cycle engine
    B. 4-stroke-cycle engine
    C. there is not enough information to determine
    D. both A and C are correct

GO TO NEXT PAGE

14. To clean the cooling system of an air-cooled small gasoline engine, the following parts should be cleaned:

A. flywheel shroud and carburetor air cleaner
B. cylinder baffles, cooling fins, and the reed valves
C. flywheel blower, shroud, and the crankcase breather
D. flywheel shroud and blower, cylinder baffle, and cooling fins

15. Recommended materials to use for cleaning an engine include:

A. commercial "degreasers"
B. gasoline
C. petroleum solvents
D. both A and C are correct
E. all of the above

16. The proper fuel mixture (oil to gasoline) for a 2-stroke-cycle engine:

A. varies between designs and sizes of engines
B. always is 1/2 pint of oil to one gallon
C. should be looked up in the operator's manual
D. both A and C are correct

17. When preparing to start a small gasoline engine that has been in storage for several months:

A. the engine should be cranked with the spark plug out several times
B. high test gasoline should be used for the first hour of operation
C. always readjust the carburetor
D. both B and C are correct

18. After the small gas engine has started, the operator should:

A. immediately open the throttle completely
B. immediately begin applying load
C. set the engine at fast idle for at least one minute
D. set the engine at a slow idle for at least five minutes

GO TO NEXT PAGE

19. Small gasoline engines with float-type or suction carburetors will not operate satisfactorily on slopes of more than:

A. 5°
B. 15°
C. 25°
D. 35°

20. To protect the cylinder of a 4-stroke cycle engine during storage, the engine should be set at:

A. the bottom of the intake stroke
B. the top of the compression stroke
C. the middle of the exhaust stroke
D. the bottom of the power stroke

21. If you put a mixture of oil and gasoline in the crankcase of a 4-stroke cycle engine,the engine will:

A. backfire
B. overheat
C. operate at higher r.p.m.
D. run normally but at lower r.p.m.

22. Overheating of a small gasoline engine may be caused by:

A. a clogged muffler
B. a lean fuel mixture
C. dirt and grime on the cooling fins
D. all of the above

23. Ruptured oil seals and gaskets and oil leaks are usually caused by:

A. clogged crankcase breather
B. clogged muffler
C. overfilling the oil sump
D. too high octane fuel

GO TO NEXT PAGE

24. To prevent engine "knock", the octane rating of fuel should be:

A. higher for higher engine compression ratios
B. lower for higher engine compression ratios
C. maintained at 90-92 for all small gasoline engines
D. none of the above

25. To prevent static electricity when refueling an engine:

A. pour the fuel into the tank slowly
B. keep the fuel nozzle in contact with the metal fuel tank
C. use a funnel
D. both A and B are correct

26. When starting a cold engine with a hand operated choke:

A. the choke should be 3/4 closed
B. the choke should be half closed with the throttle lever entirely open
C. the choke should be closed with the throttle lever 1/4 to 1/2 open
D. the choke should be open

27. The major abuse to small gasoline engines is due to:

A. dirty working conditions
B. improper carburetor adjustments
C. improper storage
D. overspeeding and overloading

28. To stop a small gasoline engine under heavy load properly, the operator:

A. may shut the engine off immediately and cause no damage to engine parts
B. should allow the engine to idle for one-two minutes with no load
C. should allow the engine to run at full throttle with no load for one-two minutes
D. should pull off the spark plug wire

END OF TEST

TABLE: 1-20 A
AREA: Agricultural Production
TEST NO.: 1-20
KUDER-RICHARDSON 20: .516
KUDER-RICHARDSON 21: .455

N(tests) = 134

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	C	.731	.707	.339	35.7
2.	A	.604	.383	.248	24.4
3.	C	.724	.233	.132	13.9
4.	B	.343	.696	.290	37.1
5.	C	.433	.809	.368	49.0
6.	C	.381	.309	.166	20.0
7.	A	.761	.187	.076	10.9
8.	A	.799	.740	.378	38.1
9.	E	.716	.094	.067	5.6
10.	C	.724	.844	.449	48.7
11.	A	.791	.339	.185	17.5
12.	D	.813	.780	.372	35.9
13.	B	.597	.673	.320	35.6
14.	D	.425	.661	.276	35.4
15.	D	.687	.673	.315	33.9
16.	D	.515	-.016	.041	-0.6
17.	A	.552	.383	.216	24.9
18.	C	.560	.218	.154	13.2
19.	B	.664	.637	.280	30.4
20.	B	.493	.853	.451	53.8
21.	B	.448	.729	.328	40.8
22.	D	.194	.233	.136	12.0
23.	A	.590	.637	[illegible]42	31.5
24.	A	.672	.637	.302	31.0
25.	B	.761	.891	.373	54.1
26.	C	.694	.696	.333	36.3
27.	D	.433	.397	.256	25.9
28.	B	.396	.827	.389	50.1
29.					
30.					

AREA: AGRICULTURAL PRODUCTION

Unit: Oxy-Acetylene Welding and Cutting

Student Performance Objectives

The student should be able to:

1. Provided the appropriate oxy-acetylene welding equipment and pieces of steel or cast iron of various thicknesses, cut steel well enough that the piece fits its intended purpose.
2. Provided tha appropriate oxy-acetylene welding equipment, properly connect and inspect the oxy-acetylene welding equipment, light, adjust and turn off the flame, observing safe procedures and care of the equipment, to the satisfaction of the teacher.
3. Provided the appropriate oxy-acetylene welding equipment and pieces of steel or cast iron of varying thicknesses, braze (bronze weld) the metals using the appropriate rod required for the job.
4. Provided the appropriate oxy-acetylene welding equipment and various pieces of steel or cast iron, fusion weld the metals by either using a filler rod or not using a filler rod to achieve sufficient strength for the use of the fused materials.
5. Provided the appropriate oxy-acetylene welding equipment and pieces of steel, heat and bend the metal to fit a specific situation.

AREA: AGRICULTURAL PRODUCTION

Unit: Oxy-Acetylene Welding and Cutting (1-21)

1. The temperature of the hottest part of a neutral oxy-acetylene flame is approximately:

A. 1300° F
B. 1600° F
C. 2300° F
D. 6000° F

2. Which metal listed below becomes brittle and fractures easily if over-heated?

A. aluminum
B. high carbon steel
C. mild steel
D. brass

3. When the bronze rod is applied in bronze welding gray cast iron, the cast iron should be heated to:

A. a light blue color
B. 200 degrees cooler than the molten bronze
C. the same temperature as the molten bronze
D. a bright yellow color

GO TO NEXT PAGE

4. An oxy-acetylene torch would be prefereed to an arc welder when:

A. all work is done in the shop
B. cutting cast iron
C. welding mild steel plow leveling lever
D. cutting steel

5. The regulator hose which attaches to the oxygen tank has:

A. left-handed threads
B. right-handed threads

6. Both oxygen and acetylene are:

A. colorless
B. odorless
C. tasteless
D. A and C are both correct
E. all of the above are correct

7. If the oxygen cylinder valve is opened while the regulator valve is partly open, the force of the oxygen rushing from the cylinder may:

A. cause an explosion
B. rupture the diaphragm
C. cause the regulator gauge to burst
D. none of the above

8. In order to close the oxygen or acetylene regulator valves:

A. the regulator hand wheel should be turned to the left
B. the regulator hand wheel should be turned to the right
C. the blowpipe valves should be turned to the right
D. the regulator hand wheel should be turned so it feels tight in the threads

9. Oxy-acetylene equipment should:

A. be lubricated after 50 hours of use with a very light oil
B. never be lubricated
C. be lubricated after each use
D. be lubricated with SAE 20 oil after every 35 hours of use

GO TO NEXT PAGE

10. If while using an oxy-acetylene torch, you hear a squeaky or hissing noise from inside the blowpipe, this may indicate a:

    A. backfire
    B. flash back
    C. incorrect pressure
    D. B and C are both correct

Use the chart below to answer questions 12 thru 15.

Tip Size	Metal Thickness	Cutting Speed IPM	Cutting Oxygen psi	Fuel Gas - Lbs./Sq. In.		Kerf Inches
				Acetylene	LPG or Natural Gas	
68	1/8"-1/4"	21-28	25-50	2-3	2-4	3/64
62	3/8"-1/2"	17-22	35-55	2-4	2-5	5/64
56	3/4"-1"	14-20	50-75	3-5	3-6	3/32
53	1-1/2"-2"	10-15	50-60	4-6	3-7	1/8
51	3"	9-12	60-65	5-7	4-8	9/64
46	4"	8-11	50-55	6-8	5-9	5/32

11. If you have a 15/16" piece of metal to cut what size tip should you use?

    A. 68
    B. 62
    C. 56
    D. not enough information given

12. For a 3/8" piece of steel at what pressure should the acetylene regulator be set?

    A. 3
    B. 5
    C. 2
    D. A and C are both correct

GO TO NEXT PAGE

13. With a 2" piece of metal, the oxygen regulator gauge should be set at:

A. 35 psi
B. 45 psi
C. 55 psi
D. 65 psi

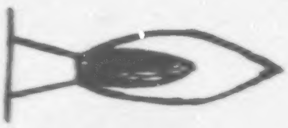
14. If the cutting torch has a size 62 tip, the metal to be cut should be:

A. 3/4 inches wide
B. 3/8" wide
C. 3/4" thick
D. 3/8" thick

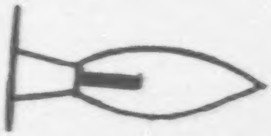
15. When shutting off a lighted oxy-acetylene torch after use:

A. the blowpipe oxygen value should be shut off first
B. close both cylinder valves first
C. the oxygen regulator valve should be closed first
D. the acetylene regulator valve should be closed first

Use the drawing below to answer questions 16 thru 20.



1



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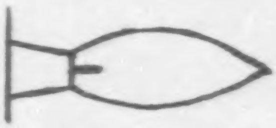


3

16. Drawing 1 on the preceding page illustrates a flame known as:

    A. neutral
    B. carburizing
    C. oxidizing
    D. none of the above

17. The flame on the preceding page which is usually used for welding is:

    A. 1
    B. 2
    C. 3

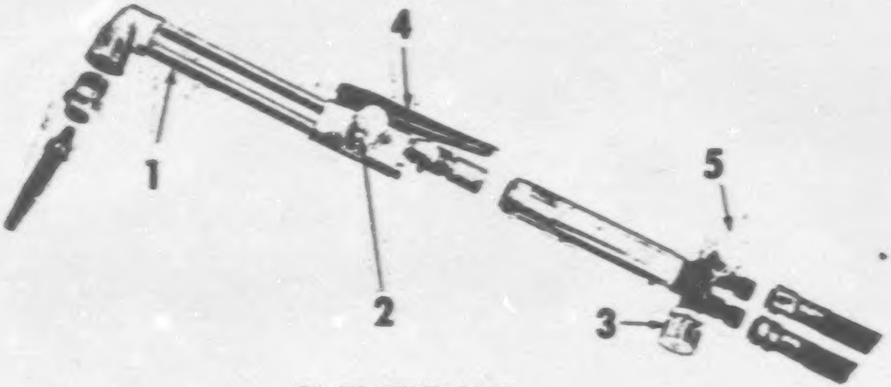
18. The flame in the same illustration which is used for brazing operations is:

    A. 1
    B. 2
    C. 3
    D. none of the above

19. The darker area in drawing number 1 on the preceding page is caused by:

    A. excessive acetylene
    B. inadequate oxygen
    C. excessive oxygen
    D. inadequate acetylene

Use the drawing below to answer questions 21 thru 23.



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20. The preheat-oxygen valve in the drawing on the preceding page is indicated by the letter:

    A. 1
    B. 2
    C. 3
    D. 4
    E. 5

21. When lighting the cutting torch which of the following valves should be opened first:

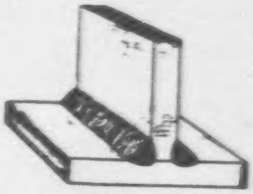
    A. 2
    B. 3
    C. 5
    D. none of the above

22. Part number 4 in the drawing on the preceding page is called the:

    A. blowpipe oxygen valve lever
    B. pre-heat oxygen lever
    C. blowpipe acetylene valve lever
    D. cutting-oxygen valve lever

23. The weld shown below is called:

    A. butt
    B. fillet
    C. lap
    D. horizontal



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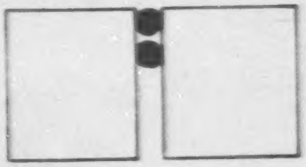
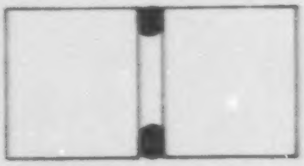
24. Which of the following spot weld procedures will give the least distortion when welding steel?

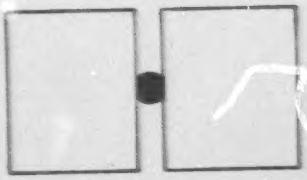
A.



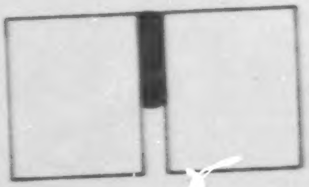
C.



B.

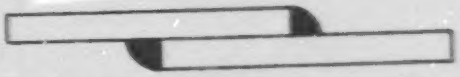


D.



25. The weld joint shown is:

A. a vertical butt
B. a flat butt
C. a flat fillet
D. none of the above



26. The area used for arc welding should be:

A. well-ventilated
B. in a separate room of the shop
C. line with asbestos
D. B and C above

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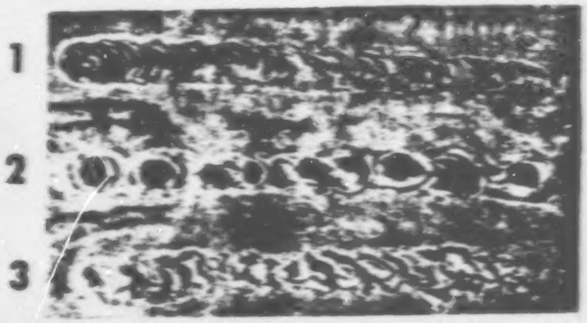
Use the drawing below to answer questions 28 and 29.



27. Which of the beads illustrated above shows that the flame was moved too slowly:

A. 1
B. 2
C. 3

28. Which of the beads in the picture would indicate improper penetration?

A. 1
B. 2
C. 3
D. none of the above

29. When pieces of metal thicker than 1/4 inch are to be joined by bronze welding:

A. the edges should be beveled
B. more flux should be placed on the rod
C. the flame should be a carburizing one
D. the rod should be smaller in diameter

30. An oxy-acetylene table should have a top made out of:

A. steel
B. bricks
C. clay
D. B or C are both correct

GO TO NEXT PAGE

31. When oxy-acetylene welding, the top of the blowpipe should be:

    A. held at a 45° angle to the surface to be welded
    B. 1/4" above the surface of the metal
    C. held at a 75° angle to the surface to be welded
    D. A and B are both correct

32. Which of the following would be the thickest piece of metal:

    A. 32 gauge
    B. 26 gauge
    C. 16 gauge
    D. 42 gauge

33. When extinguishing the flame of a cutting blowpipe which of the following operations should be done first?

    A. close the blowpipe pre-heat oxygen valve
    B. open blowpipe valves to drain acetylene out of hose
    C. close the blowpipe acetylene valve
    D. close the oxygen regulator valve

34. When molten metal from a welding rod is added to a puddle as it progresses across a piece of metal, it is called:

    A. bronze welding
    B. making a bead
    C. padding
    D. brazing

35. When bronze welding, the base metal should be heated to a:

    A. light yellow color
    B. light blue color
    C. bright red color
    D. none of these

END OF TEST

TABLE: 1-21 A
AREA: Agricultural Production
TEST NO.: 1-21
KUDER-RICHARDSON 20: .604
KUDER-RICHARDSON 21: .548

N(tests) = 52

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	D	.596	.905	.381	59.5
2.	B	.615	.063	.015	4.3
3.	C	.731	.661	.398	32.4
4.	D	.423	.836	.382	51.9
5.	B	.442	.413	.286	31.0
6.	D	.404	.625	.316	31.4
7.	B	.635	.411	.287	25.2
8.	A	.635	.368	.251	24.3
9.	B	.308	.905	.513	57.6
10.	D	.712	.078	-.027	4.8
11.	C	.423	.836	.391	51.4
12.	D	.346	.264	.050	16.2
13.	C	.192	.673	.318	29.0
14.	D	.346	.770	.368	44.3
15.	A	.750	.440	.167	25.7
16.	B	.442	.696	.277	37.6
17.	B	.462	.891	.468	58.1
18.	C	.673	-.047	.040	-2.9
19.	A	.577	.368	.203	23.8
20.	B	.538	.770	.353	45.2
21.	B	.538	-.156	-.031	-10.5
22.	D	.404	.264	.144	17.1
23.	B	.808	.233	.235	12.4
24.	C	.173	.729	.302	28.6
25.	D	.654	.309	.249	18.6
26.	A	.538	.047	.005	3.3
27.	B	.442	.891	.483	58.1
28.	C	.596	.770	.318	45.2
29.	A	.635	.729	.343	39.0
30.	D	.500	.625	.333	31.4

TABLE: 1-21 A
AREA: Agricultural Production
TEST NO.: I-21

Item	Correct Option	Relative Diffi-culty	Phi Coeff-icient	Point Biserial Coefficient	Discrim-ination Index
1.	D	.538	.770	.308	45.2
2.	C	.385	.770	.442	44.3
3.	C	.404	.905	.461	57.6
4.	E	.000	.000	.000	00.0
5.	C	.615	.294	.051	18.1
6.					
7.					
8.					
9.					
0.					
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
0.					

AREA: AGRICULTURAL PRODUCTION

Unit: Selection of Common Hand and Power Tools

Student Performance Objectives

The student should be able to:

1. When provided with the construction and maintenance jobs of the farm which are planned to be done by the student, determine the number, kind and size of hand and power tools needed, according to recommendations of farm construction, equipment service personnel, and agricultural engineering specialists.

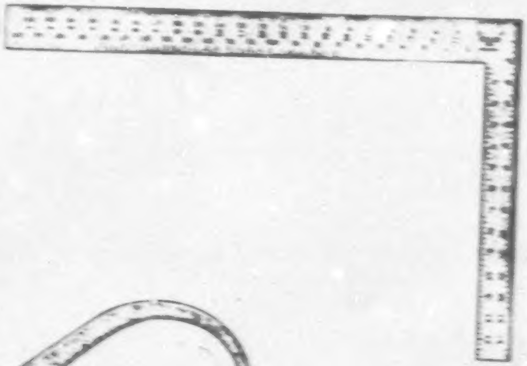
2. When presented with a list of hand and power tools needed for the construction and maintenance jobs of a farm, determine where the tools will be obtained based on cost, quality, availability and safety features.

AREA: AGRICULTURAL PRODUCTION

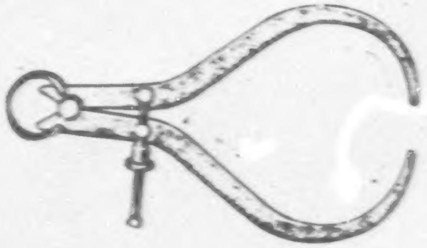
Unit: Selection of Common Hand and Power Tools
(1-22)

For questions number 1 thru 43, select the answer on the left which best describes the item pictured on the right.

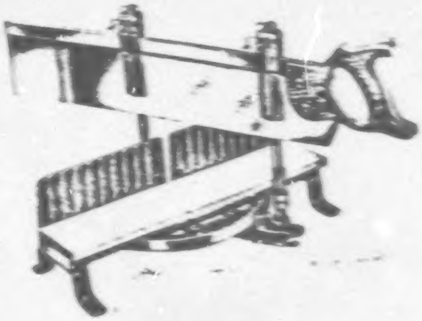
1. A. carpenter's square
   B. try square
   C. combination square
   D. angle square



2. A. micrometer
   B. outside caliper
   C. inside calipers
   D. circle gauge



3. A. mitre box saw
   B. angle saw
   C. frame cutter
   D. table saw



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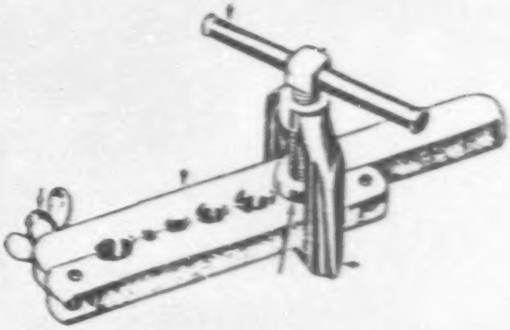
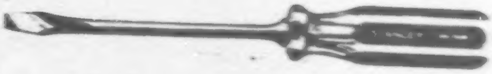
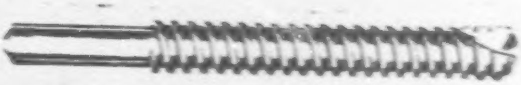


4. A. pipe fitter
   B. pipe die
   C. hole punch
   D. flaring tool

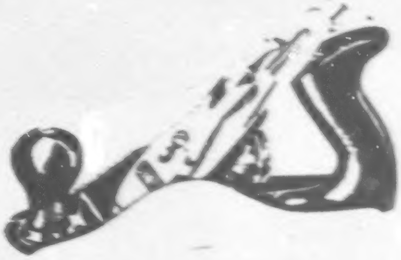
5. A. phillips screwdriver
   B. narrow-head chisel
   C. standard screwdriver
   D. none of these



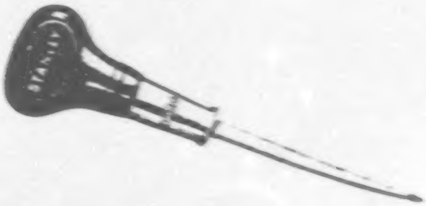
6. A. power bit
   B. masonry bit
   C. expansion bit
   D. auger bit



7. A. block plane
   B. back plane
   C. jointer plane
   D. bench plane



8. A. center punch
   B. prick punch
   C. scratch awl
   D. nail set



9. A. hack saw
   B. back saw
   C. compass saw
   D. coping saw

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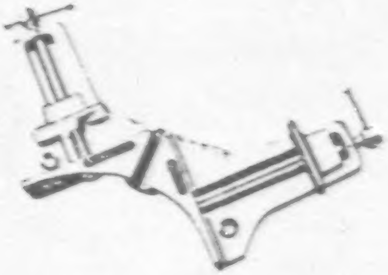
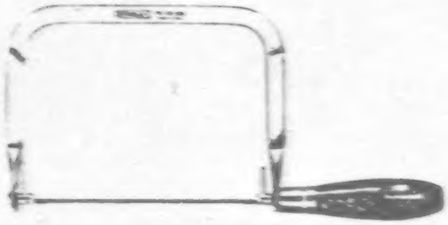
10. A. angle clamp
B. combination clamp
C. mitre gauge
D. corner clamp

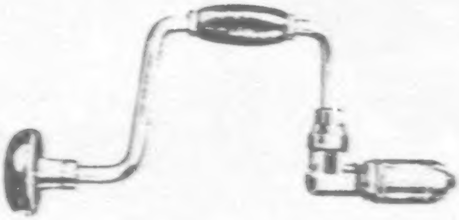


11. A. compass saw
B. crosscut saw
C. coping saw
D. back saw

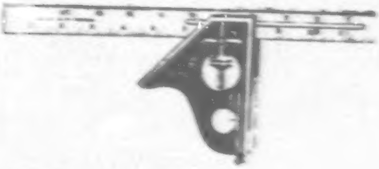


12. A. pin punch
B. nail set
C. prick punch
D. center punch

13. A. bit brace
B. drill rack
C. ratchet drill
D. hand drill



14. A. sliding square
B. try square
C. carpenter's square
D. combination square



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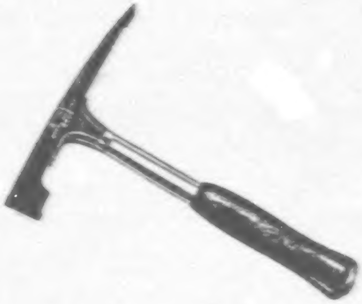
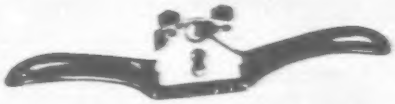
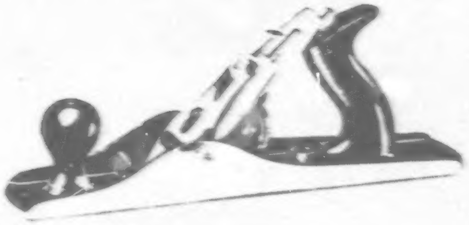
15. A. engineer's hammer
B. brick hammer
C. ripping hammer
D. blacksmith's hammer



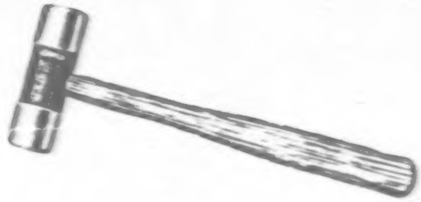
16. A. winged scraper
B. blade scraper
C. spoke shave
D. none of these



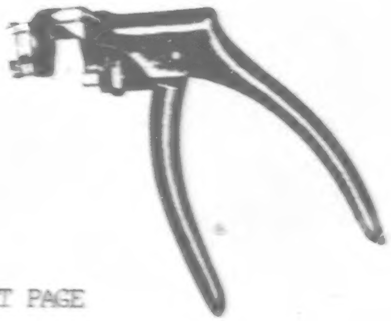
17. A. block plane
B. jack plane
C. jointer plane
D. bench plane



18. A. wood mallet
B. flat pein hammer
C. plastic mallet
D. tinner's hammer



19. A. saw set
B. hole punch
C. caulking gun
D. spoke shave



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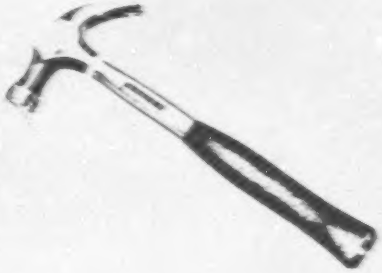
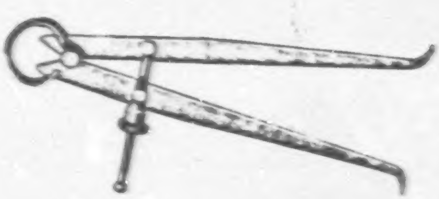
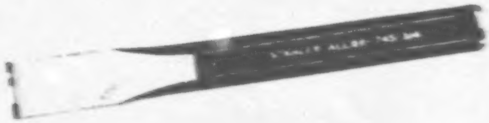
20. A. nail hammer
B. ripping hammer
C. engineers' hammer
D. claw hammer



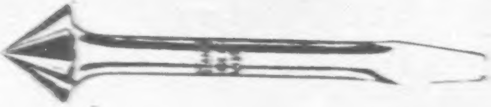
21. A. compass
B. inside calipers
C. outside calipers
D. hole gauge



22. A. metal scraper
B. cold chisel
C. wood chisel
D. A and B are both correct



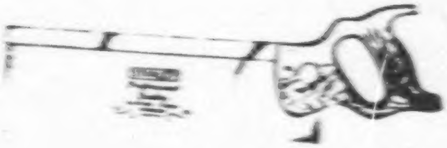
23. A. countersink
B. auger bit
C. flare bit
D. expansion bit



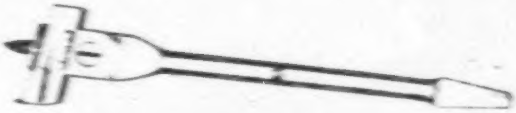
24. A. sliding level
B. wood rule
C. sliding square
D. marking gauge

GO TO NEXT PAGE

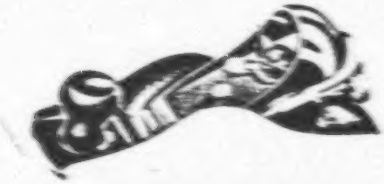
25. A. coping saw
B. dovetail saw
C. hack saw
D. back saw



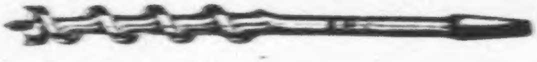
26. A. auger bit
B. masonry bit
C. expansion bit
D. power bit



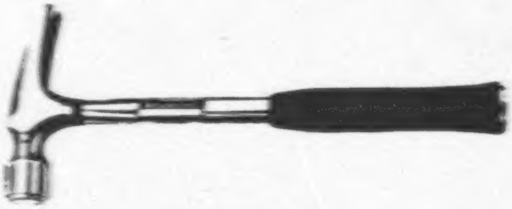
27. A. bench plane
B. block plane
C. jointer plane
D. jack plane



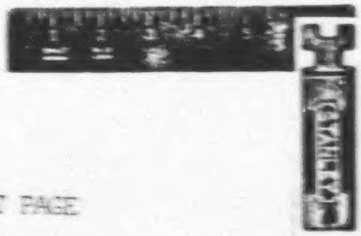
28. A. auger bit
B. expansion bit
C. starret bit
D. brace bit



29. A. brick hammer
B. engineers hammer
C. ball pein hammer
D. ripping hammer



30. A. rafter square
B. t-square
C. try square
D. combination square



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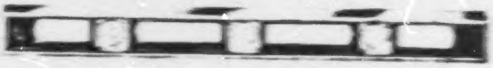
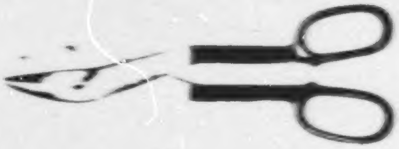
31. A. level
B. flat square
C. plumb bobb
D. none of these

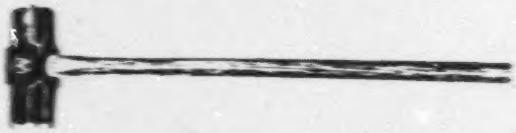


32. A. metal crimper
B. steel shears
C. tin snips
D. wire pliers

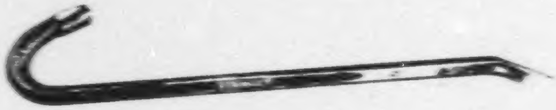


33. A. coping saw
B. crossout saw
C. circum saw
D. compass

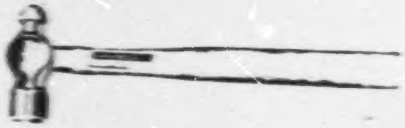
34. A. 10 lb. hammer
B. sledge hammer
C. ball pein hammer
D. rubber mallet



35. A. crowbar
B. wrecking bar
C. ripping bar
D. all of the above are correct



36. A. carpenter's hammer
B. sledge hammer
C. ball pein hammer
D. ripping hammer



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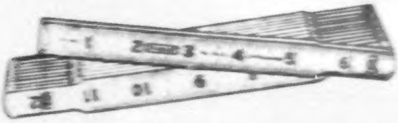
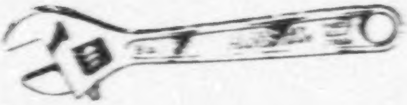
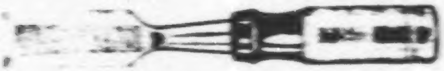
37. A. sliding rule
B. folding rule
C. carpenter's rule
D. B and C are both correct



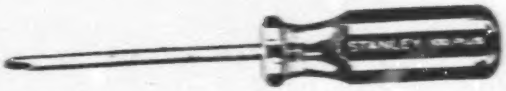
38. A. pipe wrench
B. adjustable wrench
C. end wrench
D. monkey wrench



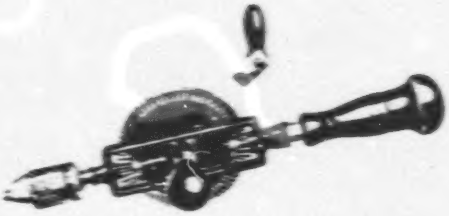
39. A. wood scraper
B. wood chisel
C. cold chisel
D. flat awl



40. A. standard screwdriver
B. diamond head screwdriver
C. phillips screwdriver
D. pin punch



41. A. bit and brace
B. chuck drill
C. yankee drill
D. hand drill



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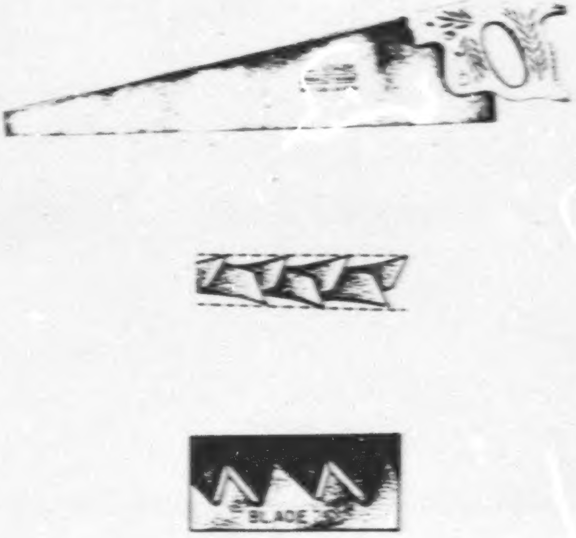
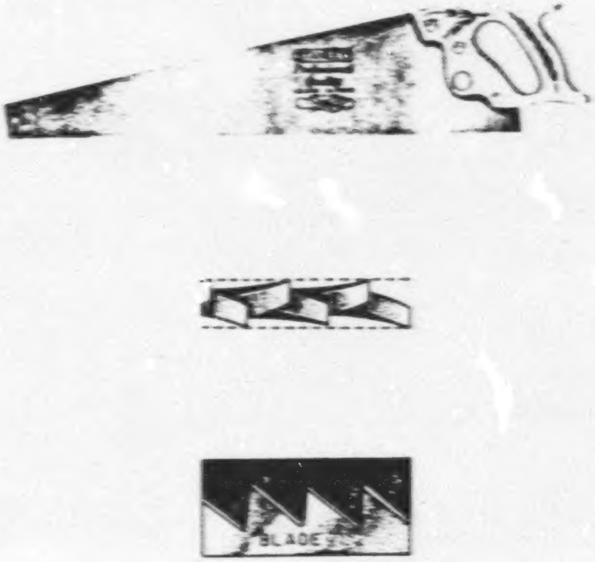
42. If you wanted to cut a board across the grain, which of the saws pictured below would you use?



A



B

43. If you wanted to cut out a curved design in a piece of wood using a power tool which of the following would you use?

A. mitre saw
B. radial arm saw
C. table saw
D. band saw

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44. If you were cutting a piece of cold rolled steel which of the following is the recommended tool?

A. hack saw
B. metal saw
C. coping saw
D. steel saw

45. If a hole is to be drilled with an auger bit you should place the bit in a:

A. hand drill
B. bit brace
C. breast drill
D. 1/4" electric drill

46. An expansion bit allows you to make a:

A. deeper hole
B. longer hole
C. wider hole

47. The tool recommended for making a long line or mark on a piece of metal is a(an):

A. nail set
B. screwdriver
C. awl
D. prick punch

48. The saw which is used in a mitre box is a(an):

A. hack saw
B. compass saw
C. coping saw
D. back saw

END OF TEST

TABLE: 1-22 A
AREA: Agricultural Production
TEST NO.: 1-22
KUDER-RICHARDSON 20: .869
KUDER-RICHARDSON 21: .829
N(tests) = 74

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	A	.257	.780	.418	42.9
2.	B	.500	.951	.556	66.7
3.	A	.392	.918	.568	61.9
4.	D	.703	.718	.396	38.1
5.	C	.000	.000	.000	00.0
6.	B	.500	.844	.446	52.4
7.	D	.635	.156	.063	9.5
8.	C	.473	.911	.541	61.9
9.	A	.000	.000	.000	00.0
10.	D	.351	.411	.184	23.8
11.	C	.230	.918	.542	57.1
12.	B	.622	.770	.356	42.9
13.	A	.581	---	.745	90.5
14.	D	.473	.844	.424	52.4
15.	B	.473	.000	-.021	00.0
16.	C	.838	.339	.104	14.3
17.	B	.581	.884	.493	57.1
18.	C	.770	.187	.081	9.5
19.	A	.770	.930	.576	61.9
20.	D	.203	.898	.453	52.4
21.	B	.541	.994	.644	81.0
22.	B	.446	.941	.517	66.7
23.	A	.432	.965	.525	71.4
24.	D	.541	.884	.413	57.1
25.	D	.351	.876	.498	57.1
26.	C	.297	.976	.625	71.4
27.	B	.635	.740	.367	38.1
28.	A	.568	.965	.560	71.4
29.	D	.351	.918	.444	57.1
30.	C	.622	.836	.363	52.4

TABLE: 1-22 A
AREA: Agricultural Production
TEST NO.: 1-22

Item	Correct Option	Relative Diffi-culty	Phi Coeff-icient	Point Biserial Coefficient	Discrim-ination Index
1.	A	.068	.000	.018	00.0
2.	C	.122	.729	.378	28.6
3.	D	.851	.649	.347	28.6
4.	B	.054	.249	.192	9.5
5.	D	.554	-.078	-.001	-4.8
6.	C	.095	.339	.242	14.3
7.	D	.527	.294	.156	19.0
8.	B	.095	.411	.260	19.0
9.	B	.108	.729	.374	28.6
0.	C	.041	.339	.209	9.5
1.	D	.257	.869	.370	47.6
2.	A	.446	.696	.261	38.1
3.	D	.459	.836	.413	52.4
4.	A	.419	.440	.240	28.6
5.	B	.622	.844	.449	52.4
6.	C	.203	.918	.543	57.1
7.	C	.270	.827	.439	47.6
8.	D	.365	.951	.570	66.7
9.					
0.					

AREA: AGRICULTURAL SUPPLIES AND SERVICES

Unit: Agricultural Supplies and Services Salesmanship and Selling

Student Performance Objectives

The student should be able to:

1. While working in the agricultural supply and service sales department, handle the objections and complaints of a customer to the satisfaction of the teacher, employer and customer.
2. While working in the sales department of an agricultural supply and service firm, advertise and display items for sale in a manner acceptable to the teacher and/or employer.
3. While working in the sales department of an agricultural supply and service firm, meet prospective customers and conduct a sales presentation to the satisfaction of the teacher and/or employer.

AREA: AGRICULTURAL SUPPLIES AND SERVICES

Unit: Agricultural Supplies and Services Salesmanship and Selling (2-2)

1. A good rule for a salesperson in an agricultural business firm to follow is "All shoplifters look alike".

   A. true
   B. false

2. What is meant by overselling?

   A. give the customer a little more of the product than he paid for
   B. continue to talk about product after the customer has decided to buy
   C. selling the customer two items when he wants only one
   D. charging more than the original price of the product

3. Display advertising is a form of advertising which primarily makes use of a persons sense of:

   A. hearing
   B. smell
   C. touch
   D. sight

4. The costs for advertising on the local TV station are as follows:

	60 seconds	30 seconds	20 seconds	10 seconds
Spot buys:	4:00 p.m to 8:00 p.m			
Class A	$15.00	$12.00	$9.00	$6.00
	8:00 p.m. to sign-off			
Class B	$12.00	$ 9.00	$6.00	$3.00
	Sign-on to 4:00 p.m.			
	$10.00	$ 8.00	$4.00	$2.00

Minimum order: 10 spots

Using this information, a 10-second spot at 7:00 p.m. and 10:00 p.m. for 7 days would cost:

   A. $84.00
   B. $72.00
   C. $63.00
   D. $42.00

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5. When working in a farm supply store a farmer asks you what varieties of wheat are recommended for the area. How would you answer the questions?

A. ask him what variety he grew last year and recommend that he use it again this year
B. check a reference book at the store (such as the Agronomy Guide) and show him what varieties are recommended for the area
C. tell him that you are sorry but that you do not know
D. tell him that he will have to check with the agriculture teacher or county agent to get that kind or information

6. If a customer says "This is not what I had in mind", a salesperson should:

A. emphasize service
B. show similar items of different price ranges
C. admit to the objection but show other features
D. show more goods

7. A salesperson who wants to improve in salesmanship ability should:

A. ask a friend to offer advice
B. try to analyze your selling and what needs improvements
C. get more experience in selling
D. ask the employer for suggestions for becoming a better salesperson

8. What is more likely to happen when a customer is high pressured?

A. the customer thinks something is wrong and becomes cautious
B. the customer will buy more quickly
C. the customer shows more interest in the product
D. the customer likes high pressure selling

9. Which of the following products would an Agriculture Supply Store advertise during the month of August?

A. seed oats
B. seed wheat
C. early order fertilizer
D. atrazine

GO TO NEXT PAGE

10. If the customer says "The price on this lawn mower is too high", a salesperson should:

A. tell the customer to go to another store
B. show similar items of different price ranges
C. admit to the objection but emphasize service
D. none of the above

11. What is point-of purchase advertising?

A. ads in and around the place of business
B. telling a customer about another product
C. advertising only products farmers are interested in
D. advertising products in the classified ad section of newspapers

12. The first thing a salesperson has to sell is:

A. his/her school
B. himself/herself
C. his/her experience
D. products

13. Which of the following should not be used by a good salesperson when handling customers' sales objections?

A. give a long and informative reply
B. know when to stop talking
C. get at the real problem
D. none of these

14. Which of the following is the most important concern in window displays?

A. to bring customers into the business
B. to show customers how to use products
C. to be more attractive than next door businesses
D. to make it easy for customers to determine prices without having to ask

GO TO NEXT PAGE

15. What is out-of-store advertising?

A. arranging some products in front of the store in the summer
B. advertising through newspapers, TV, direct mail and roadsigns
C. using large posters and attractive signs at key spots around the merchandise in the store
D. advertising that prices are reduced because merchandise is being discontinued or store is going out of business

16. How much would a 1-minute announcement three times a day for a week cost if the cost of advertising at the local radio station are as:

20 second spot	$3.75
1 minute spot	$4.50
1/2 hour spot	$30.50

A. $8[illegible].50
B. $100.50
C. $92.50
D. $94.50

17. A classified ad which is one column wide and 3 inches long costs $6.60. The advertisement rate for this is:

A. $2.20 per column
B. $3.30 per column
C. $2.20 per column inch
D. $3.30 per column inch

END OF TEST

TABLE: 2-2 S
AREA: Agricultual Supplies and Services
TEST NO.: 2-7
KUDER-RICHARDSON 20: .547
KUDER-RICHARDSON 21: .404
N(tests) = 32

Item	Correct Option	Relative Diffi- culty	Phi Coeff- icient	Point Biserial Coefficient	Discrim- ination Index
1.	B	.188	.125	.076	5.6
2.	B	.375	.884	.403	55.6
3.	D	.031	.000	-.114	00.0
4.	C	.188	.905	.389	50.0
5.	B	.094	.637	.260	16.7
6.	D	.625	.809	.326	44.4
7.	D	.438	.440	.203	27.8
8.	A	.156	.800	.286	33.3
9.	B	.781	.625	.206	22.2
10.	B	.094	.800	.493	33.3
11.	A	.344	.999	.738	83.3
12.	B	.219	.905	.450	50.0
13.	A	.406	.999	.550	83.3
14.	A	.313	.965	.623	72.2
15.	B	.063	.637	.228	16.7
16.	D	.063	.000	.060	00.0
17.	C	.094	.637	.400	16.7
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
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28.					
29.					
30.					

TABLE: 2-2 A
AREA: Agricultural Supplies and Services
TEST NO.: 2-2
KUDER-RICHARDSON 20: .277
KUDER-RICHARDSON 21: .037

N(tests) = 62

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	B	.468	.740	.044	35.7
2.	B	.194	.844	.566	50.0
3.	D	.081	.383	.242	14.3
4.	C	.306	.729	.393	42.1
5.	B	.048	.383	.176	14.3
6.	D	.726	.353	.024	23.8
7.	D	.629	.249	.073	16.7
8.	A	.032	.383	.314	14.3
9.	B	.210	.924	.595	64.3
10.	B	.129	.800	.418	42.9
11.	A	.210	.844	.439	50.0
12.	B	.194	.649	.290	31.7
13.	A	.419	.965	.576	70.6
14.	A	.081	.203	.209	10.3
15.	B	.032	.264	.108	7.1
16.	D	.081	.413	.175	21.4
17.	C	.113	.078	.182	3.2
18.					
19.					
20.					
21.					
22.					
23.					
24.					
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28.					
29.					
30.					

AREA: AGRICULTURAL SUPPLIES AND SERVICES

Unit: Agricultural Supply and Service Business Procedures and Records

Student Performance Objectives

The student should be able to:

1. Upon making a sale, correctly write up a sales ticket and calculate the total amount of the sale after considering and calculating discounts, service charges, and sales tax where applicable.

2. When presented a completed sales ticket and payment in either the form of currency or check, correctly operate the cash register and make change for the customer.

3. Using the appropriate inventory forms used by the agricultural supply and service firm, correctly maintain a perpetual inventory and take a physical inventory at the end of the year.

4. Using the appropriate purchase order forms and receiving records used by the firm, correctly write up the purchase order for inventory items and complete the receiving records.

5. Using the agricultural supply and service firm's designated schedule for product percentage mark-up on cost and furnished with a given cost, correctly establish the selling price for the product or products.

AREA: AGRICULTURAL SUPPLIES AND SERVICES

Unit: Business Procedures and Records
(2-3)

1. A restrictive endorsement on a check:

   A. limits further spending of the check
   B. limits the amount of the check
   C. indicates payment in full
   D. none of the above

2. An item which costs the dealer $1.50 and is sold for $2.00 has a mark-up on the dealer's cost of:

   A. 25%
   B. 30%
   C. 33-1/3%
   D. 50%

3. The axiom, "You can't do business from an empty wagon", stresses the importance of inventory control. The main reason for inventory control is:

   A. to always keep the inventory down
   B. to have oversupply which allows for special discounts and sales
   C. to maintain a proper balance of inventory
   D. all of the above

4. An item which originally sold for $32.00 was offered for a 20% discount. If a 4% sales tax is applied, what is the amount of tax which should be charged on the sale of the item?

   A. $6.40
   B. $1.28
   C. $4.00
   D. $1.02

GO TO NEXT PAGE

5. When handed a $20.00 bill in payment for a $4.60 purchase, the procedure for the cashier to use is:

A. to leave the $20.00 bill separate and in full view until the customer has received his change and is satisfied that the transaction was correct
B. to immediately place the $20.00 with the other $20.00 bills in the register so it does not get lost, and then give the customer the change
C. write the customer a receipt for the $20.00 bill and then return the change
D. enter the transaction in the accounts receivable record and return the customers change

6. If an average of 25 twelve-ounce claw hammers were carried in stock and 100 were sold during the year, the rate of turnover would be:

A. 75%
B. four times
C. three times
D. none are correct

7. Agricultural business firms sometimes allow discounts on:

A. early orders
B. pre-inventory orders
C. quantity orders
D. all of the above

8. One item which would normally not be included on a purchase order is:

A. quantity of merchandise ordered
B. selling price of the merchandise
C. the date the order is shipped
D. terms of the sale

9. An actual physical count of all merchandise on hand at a given time is a:

A. physical inventory
B. perpetual inventory
C. depreciation schedule
D. sum-of-the-years-digits

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10. A customer's sales transaction was $11.36 and he presented a $20.00 bill in payment. Using the least number of articles of money, the change returned by the salesperson would be:

A. 4 pennies, 1 dime, 1-50¢ piece, 4 $1 and 1 $5
B. 4 pennies, 2 dimes, 1-50¢ piece, 3-$1 and 1-$5
C. 4 pennies, 1 dime, 1-50¢ piece, 3-$1 and 1-$5
D. none of the above

11. A record which is kept and adjusted daily from the sales slips and from invoices of any merchandise received is an example of a:

A. physical inventory
B. depreciation schedule
C. perpetual inventory
D. sum of the years digits

12 Selling price usually compensates for:

A. profit
B. overhead costs
C. wholesale cost
D. all of the above

13. An agricultural supply business offers a $3.00 per ton discount on fertilizer orders of 10 tons or more. The business also offers a 2% discount for cash. What is the cost to a farmer who orders 10 tons of fertilizer @ $72.00 per ton for which he will pay cash?

A. $702.60
B. $676.20
C. $675.60
D. depends on the analysis ordered

14 Magnetic symbol numbers on customer's checks are used to indicate

A. the date the check is written
B. the customer's checking account number
C. the amount of the check
D. the person to whom the check is written

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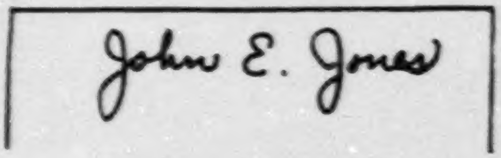
15. A check which is endorsed on the back in the following manner:



is called a:

A. special endorsement
B. qualified endorsement
C. restrictive endorsement
D. blank endorsement

16. When verifying the accuracy of a monthly bank balance, the depositor must consider:

A. beginning bank balance
B. service charges
C. outstanding checks
D. all of the above

17. The Agricultural Supply Store marks up items 50% on cost The cost to the store for one dozen hammers is $24.00. What must be the price of each hammer to get the desired mark-up?

A. $1.50
B. $2.40
C. $2.50
D. $3.00

18. Which of the following is not a function of the sales ticket:

A. to provide a permanent record of the transaction
B. it is a part of the accounting and bookkeeping system
C. it provides a record of the customers expenses
D. it indicates depreciation of large items for income tax purposes

19. The record sent by the shipper to the receiver of the goods to serve as a record that the order was received and of the materials that were shipped is called a/an:

A. receiving report
B. invoice
C. bill of lading
D. purchase order

GO TO NEXT PAGE

20. Sometimes mark-up is figured on the selling price instead of the cost. A hammer that sells for $2.00 has a 25% mark-up on the selling price. What is its cost?

A. $1.50
B. $2.00
C. $1.75
D. $2.25

21. The business form which is specifically meant to be used for checking and recording the amount and condition of a shipment that has arrived is:

A. purchase order
B. invoice
C. bill of lading
D. receiving report

END OF TEST

TABLE: 2-3 S
AREA: Agricutural Supplies and Services
TEST NO.: 2-3
KUDER-RICHARDSON 20: .635
KUDER-RICHARDSON 21: .598
N(tests) = 34

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	A	.412	.918	.446	60.9
2.	C	.735	.368	.242	21.8
3.	C	.294	.141	.175	7.3
4.	D	.676	.649	.367	31.8
5.	A	412	-.047	.087	-2.7
6.	B	.500	.844	.430	52.7
7.	D	.206	.790	.417	44.5
8.	C	.588	.078	.033	4.5
9.	A	.412	.861	.498	53.6
10.	C	.500	.649	.396	33.6
11.	C	.588	.649	.393	31.8
12.	D	.382	.918	.432	62.7
13.	B	.647	.750	.410	41.8
14.	B	.353	.094	.013	5.5
15.	D	.559	.836	.421	51.8
16.	D	.529	.760	.399	43.6
17.	D	.529	.918	.534	62.7
18.	D	.500	.649	.329	33.6
19.	B	.559	.911	.472	61.8
20.	A	.706	.203	.324	12.7
21.	D	.765	.853	.473	50.9
22.					
23.					
24.					
25.					
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TABLE: 2-3 A
AREA: Agricultural Supplies and Services
TEST NO.: 2-3
KUDER-RICHARDSON 20: .738
KUDER-RICHARDSON 21: .688
N(tests) = 46

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	A	.391	.324	.186	20.5
2.	C	.717	.718	.307	34.0
3.	C	.15[illegible]	.898	.533	53.8
4.	D	.348	.844	.491	52.6
5.	A	.130	.740	.380	30.8
6.	B	.283	.861	.475	53.2
7.	D	.478	.440	.302	28.8
8.	C	.696	-.249	.009	-14.1
9.	A	.109	.740	.434	30.8
10.	C	.152	.740	.370	30.8
11.	C	.283	.935	.514	61.5
12.	D	.239	.898	.589	53.8
13.	B	.457	.911	.435	60.9
14.	B	.109	.661	.246	23.1
15.	D	.565	.985	.650	75.0
16.	D	.196	.740	.551	37.8
17.	D	.391	.985	.619	76.9
18.	D	.304	.935	.462	61.5
19.	B	.391	.740	.150	37.8
20.	A	.304	.809	.424	45.5
21.	D	.500	.844	.370	52.6
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AREA: AGRICULTURAL SUPPLIES AND SERVICES

Unit: Determining Fertilizer and Lime Needs

Student Performance Objectives

The student should be able to:

1. When given a specific area to be sampled for Ph and soil fertility levels, correctly take cores of soil to be used in forming a representative sample, prepare the sample for processing, and complete the forms needed by the soil testing laboratory to complete the analysis of the soil.
2. When presented with fertilizer tags or fertilizer bags, correctly interpret the information on the fertilizer tag or bag.
3. Using completed and processed soil testing laboratory report forms, calculate the correct amounts of given lime and fertilizer materials needed for a given area.

AREA: AGRICULTURAL SUPPLIES AND SERVICES

Unit: Determining Fertilizer and Lime Needs (2-4)

1. Which of the following plant nutrient or nutrients can be "built up" in the soil from one year to the next by heavy application?

   A. nitrogen and phosphorus
   B. nitrogen and potassium
   C. phosphorus and potassium
   D. only nitrogen

2. A fertilizer material with the analysis of 4-16-8 has:

   A. 16 pounds of nitrogen in each bag
   B. 16% of the fertilizer material is available phosphate
   C. 16% potassium in each 100 pound bag
   D. 4 times as much potassium as it does nitrogen

3. In order to get a representative soil sample, soil from any unusual areas of the field (such as dead furrows, old manure and lime piles) should:

   A. be included in the sample in as nearly the same proportion as these unusual areas are represented in the total field
   B. not be included in the sample at all
   C. be sampled more heavily than usual areas because they need special attention
   D. be mixed with soil from other areas after both have been aired dry

4. Materials such as ground limestone etc. provides calcium to plants as well as:

   A. increase harmful concentrations of aluminum manganese and iron
   B. lower the pH level of alkaline (sweet) soils
   C. increase the pH level of acid soils
   D. result the poorer soil structure and tilth

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5. A fertilizer with the analysis of 4-16-8 has a major nutrient ratio of:

A. 1:2:1
B. 0:4:2
C. 2:8:4
D. 1:4:2

6. When planning the sampling procedure for a field, recommended guidelines would suggest :

A. taking 15 or more samples from each major area which differs in crop growth, soil color or past management
B. take one sample from each major area (as defined in "a") and mix together for one over all sample
C. where row crops are planted, take the samples in the crop row from about 15% of the rows
D. take 15 or more samples at the 2" level in the rows of row crops at the plow depth level from other crops

7. A soil test recommendation states the following additions of fertilizer be applied per acre for maintenance fertility: 85 pounds of nitrogen, 40 pounds of phosphorus, and 40 pounds of potassium. A 10-10-10 grade fertilizer is used to apply the total phosphorus and potassium. How much urea (45-0-0) would have to be added yet to bring the nitrogen application up to recommendation?

A. 40 pounds
B. 45 pounds
C. 90 pounds
D. 100 pounds

8. If a soil test indicates a need for 32 pounds of phosphate, this could be supplied by applying:

A. 200 pounds of 8-8-16
B. 200 pounds of 4-16-8
C. 400 pounds of 8-16-16
D. 100 pounds of 0-16-16

GO TO NEXT PAGE

9. When preparing soil samples for processing by laboratory, 15 soil cores taken from one major area should:

A. be packaged into 15 separate mailers
B. mixed with distilled water and mailed in plastic mailers
C. be air dried and mixed together into a composite before being placed in a mailer
D. be dried in hot oven to make sure all disease organisms are killed before processing

10. The chemical symbol P_2O_5 refers to the more common names of:

A. phosphate
B. potash
C. potassium
D. none of the above

11. The approximate amount of soil which is usually adequate for a laboratory analysis of nutrient levels of one major soil area is:

A. 1/2-1 pint
B. 1 quart
C. 1 quart to 1 gallon
D. 1 cubic foot

12. The soil fertility level that is most likely to show the greatest crop increases by adding fertilizer is one which has:

A. a high fertility level
B. a high pH
C. a low fertility level
D. very low levels of calcium

END OF TEST

TABLE: 2-4 S
AREA: Agricultural Supplies and Services
TEST NO.: 2-4
KUDER-RICHARDSON 20: -.249
KUDER-RICHARDSON 21: -.344

N(tests) = 20

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	C	.650	.818	.368	50.0
2.	B	.600	.249	.042	16.7
3.	B	.500	.249	.034	16.7
4.	C	.700	.696	.127	33.3
5.	D	.450	.988	.545	83.3
6.	A	.650	.918	.368	66.7
7.	D	.900	-.818	-.239	-33.3
8.	B	.650	-.625	-.061	-33.3
9.	C	.450	.918	.408	66.7
10.	A	.700	.918	.573	66.7
11.	A	.500	.988	.648	83.3
12.	C	.700	.249	.127	16.7
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TABLE: 2-4 A
AREA: Agricultural Supplies and Services
TEST NO.: 2-4
KUDER-RICHARDSON 20: .690
KUDER-RICHARDSON 21: .654

N(tests) = 60

Item	Correct Option	Relative Diffi-culty	Phi Coeff-icient	Point Biserial Coefficient	Discrim-ination Index
1.	C	.533	.760	.398	44.3
2.	B	.583	.905	.534	61.3
3.	B	.433	.941	.535	67.2
4.	C	.383	.876	.388	56.7
5.	D	.467	.861	.422	55.4
6.	A	.650	.411	.322	27.2
7.	D	.833	.696	.391	30.0
8.	B	.517	.780	.403	45.5
9.	C	.300	.976	.577	73.7
10.	A	.617	.861	.542	54.8
11.	A	.450	.965	.589	72.4
12.	C	.717	.956	.626	64.7
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AREA: AGRICULTURAL SUPPLIES AND SERVICES

Unit: Utilizing Chemicals for Agricultural Problems

Student Performance Objectives

The student should be able to:

1. Provided examples of damage and/or the insect or pest causing the damage, assist in identifying the insect or pest at a level of performance acceptable to the local instructor.
2. Provided examples of common local weeds, assist in identifying the weed at a level of performance acceptable to the local teacher.
3. Provided appropriate information regarding the problem to be controlled by the use of chemicals, use the firms technical publications to locate the appropriate chemical(s) to be used for a specific situation as recommended by the chemical company or other sources such as the county agent and calculate the correct amount of chemical the customer needs to purchase for a specific situation.

AREA: AGRICULTURAL SUPPLIES AND SERVICES

Unit: Utilizing Chemicals for Agricultural Problems (2-5)

1. A characteristic of the plants in the legume family is that:

   A. they all reproduce by stolens
   B. they all have a trifoliate leaf pattern
   C. they have fixed atmospheric nitrogen within root nodules
   D. have no stem nodes

2. Volatility of chemical herbicide refers to:

   A. its ability to stay suspended in liquid
   B. how quickly vapors are released and spread
   C. ability to reduce surface tension of water
   D. its movement within the plant from one part to another

3. Insects are distinguished from the other four classes of arthropoda by having:

   A. four pair of legs, antenna, and head and thorax combined into one part
   B. five or more pair of legs, head and thorax combined into one part
   C. always have sucking mouth parts and three body parts
   D. three body parts and three pair of legs

4. The part of a plant that is an underground horizontal stem which produces a new plant is a:

   A. rhizome
   B. node
   C. petiole
   D. stolon

5. The adult insect of the cattle grub on both beef and dairy cattle is the:

   A. heel fly
   B. face fly
   C. horse fly
   D. stable fly

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6. A plant part which is covered by hair is said to be

A. inflorescence
B. pubescent
C. serrate
D. glaucous

7. The insect pest which damages corn by feeding on the roots in the larvae stage and also damages pollination by feeding on the silks during the adult stage is the:

A. corn earworm
B. european corn borer
C. seed corn maggot
D. corn rootworm

8. The portion of a chemical that has an active affect on a plant is referred to as:

A. the carrier
B. emulsifier
C. active ingredient
D. solvent

9. A herbicide which kills only certain plants at the rate recommended is known as:

A. contact herbicide
B. systemic herbicide
C. post-emergent herbicide
D. selective herbicide

10. An alfalfa field which shows considerable leaf area chewed and eaten away would likely be infested by the:

A. cutworms
B. meadow spittlebug
C. potato leaf hopper
D. alfalfa weevil

GO TO NEXT PAGE

11. Application of a herbicide to only the areas over the rows of a cultivated crop is referred to as:

A. band treatment
B. post emergent
C. basal spray
D. pre-planting treatment

12. Stored grain which may be covered by silken threads or having many kernels webbed together with silken-threads indicatas infestation of:

A. red flower beetles
B. indian meal moth
C. granary weevil
D. angoumois grain moth

END OF TEST

TABLE: 2-5 S
AREA: Agricultural Supplies and Services
TEST NO.: 2-5
KUDER-RICHARDSON 20: .573
KUDER-RICHARDSON 21: .425
N(tests) = 34

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	C	.412	.998	.680	83.3
2.	B	.324	.965	.554	66.7
3.	D	.382	.891	.444	50.0
4.	A	.294	.965	.477	66.7
5.	A	.647	.951	.388	69.0
6.	B	.382	.965	.444	66.7
7.	D	.412	.110	.133	7.1
8.	C	.206	.998	.604	83.3
9.	D	.999	.000	.000	00.0
10.	D	.294	.998	.505	83.3
11.	D	.206	.047	.129	2.4
12.	A	.294	.853	.448	52.4
13.	B	.853	.707	.200	28.6
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AREA: AGRICULTURAL SUPPLIES AND SERVICES

Unit: Human Relations in the Agricultural Supplies and Services Business

Student Performance Objectives

The student should be able to:

1. Identify some of the major causes of failure on the job and identify some of the criteria employers use in advancing or promoting persons such as dependability, punctuality, production, initiative, cooperation, appearance and competence.
2. In preparing for an occupation in agricultural supplies and services, complete a self-evaluation of his physical appearance, speech and conversation and his personality as it pertains to relations with other persons to the satisfaction of the teacher.
3. In preparing to enter into an occupation in agricultural supplies and services, identify the employee's role, the employer's role, the supervisor's role and the customer role in the business to the satisfaction of the teacher.
4. When working with employers, fellow employees, supervisors or customers, communicate effectively orally or in writing with these people to the satisfaction of the teacher and/or employer.
5. While employed in the agricultural supply and service business, properly answer and use the telephone to conduct business transactions to the satisfaction of the teacher and/or employer.

Unit: Human Relations in the Agricultural Supplies and Services Business
(2-6)

1. In business, human relations means:

   A. relationships between the employer and employees
   B. relationships between employees
   C. relationships between customers and salespersons
   D. all of these

2. Personality is measured (good - bad) by:

   A. your appearance
   B. how your habits and skills interest and serve others
   C. the initiative you show
   D. your production as an employee

3. An employee must be able to take instruction because:

   A. it will make him more capable of giving instructions
   B. time and money will be saved
   C. it will show the employer that he is dependable
   D. both B and C are correct

4. The purpose(s) of human relations in business is(are):

   A. gaining the cooperation of people
   B. getting them to produce more
   C. helping people get satisfaction from their work
   D. all of the above

GO TO NEXT PAGE

5. The most important traits called for in good customer relations are:

   A. self-discipline and psychology
   B. human behavior and getting along with others
   C. unstructured human relations and good manners
   D. tact, courtesy and respect

6. Don is a vocational agriculture student who enjoys working in an agribusiness firm. In order to learn more while on the job, Don arrives at work early, does not take breaks and eats a short lunch. One day an older employer tells Don that he will never get far in the business and that he would get along better with the other employees if he would quit being so ambitious. Of the following alternatives for Don to follow, the most appropriate is to:

   A. tell the employer and have him handle the problem
   B. continue exactly as he had in the past, ignoring the suggestions of the older employee
   C. take the advice of the older employee and take it easy
   D. take his breaks and full lunch, but continue to learn by taking materials home with him to study

7. When a call comes in for a person who is not present at the moment, you should:

   A. yell for the person to come to the phone
   B. tell the caller to wait a minute while you find the person
   C. tell the caller to call back later
   D. ask the caller if he would rather wait or call back later

8. Misinformation is often passed from one employee to another in the form of:

   A. good intentions
   B. semantics
   C. rumors
   D. oral communications

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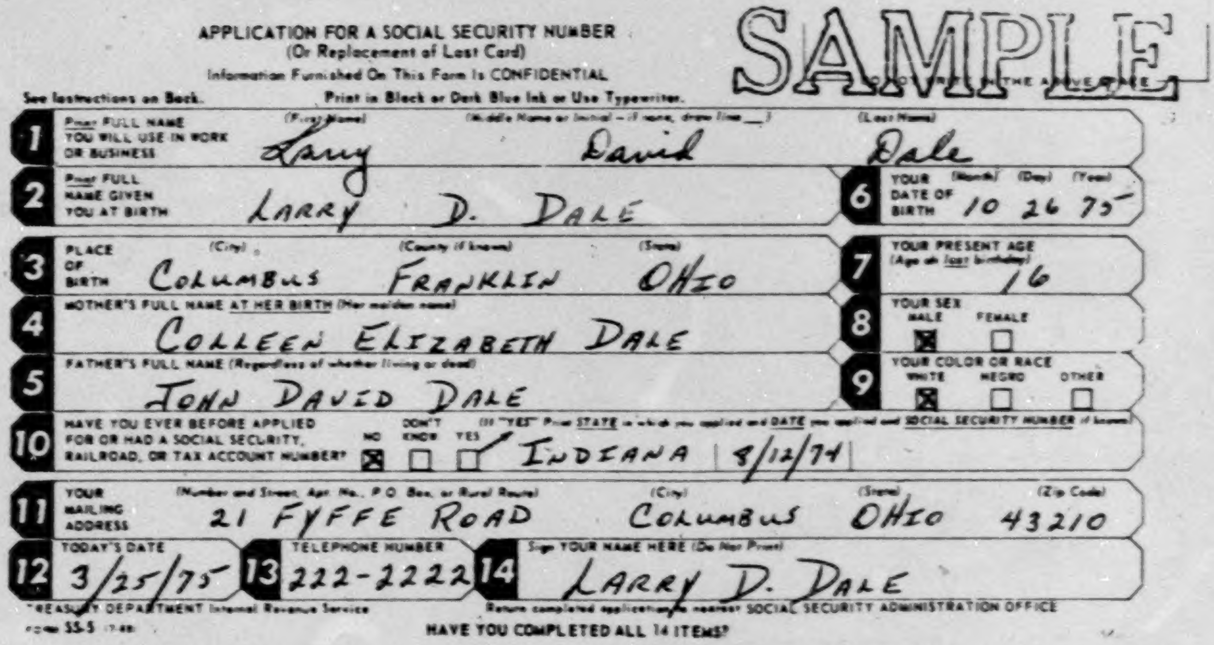
9. The manager of an agriculture supply store observes a salesperson make a mistake when dealing with a customer. After the customer leaves the store, the manager should:

A. fire the salesperson on the spot
B. not say anything to the salesperson because pointing out mistakes is discouraging
C. point out the mistake to the salesperson and tell the salesperson how to avoid future mistakes
D. require the salesperson to write a letter of apology to the customer



APPLICATION FOR A SOCIAL SECURITY NUMBER
(Or Replacement of Lost Card)
Information Furnished On This Form Is CONFIDENTIAL
See Instructions on Back. Print in Black or Dark Blue Ink or Use Typewriter.

SAMPLE

1 Print FULL NAME YOU WILL USE IN WORK OR BUSINESS (First Name) Larry (Middle Name or Initial – if none, draw line ___) David (Last Name) Dale
2 Print FULL NAME GIVEN YOU AT BIRTH LARRY D. DALE
6 YOUR DATE OF BIRTH (Month) 10 (Day) 26 (Year) 75
3 PLACE OF BIRTH (City) COLUMBUS (County if known) FRANKLIN (State) OHIO
7 YOUR PRESENT AGE (Age on last birthday) 16
4 MOTHER'S FULL NAME AT HER BIRTH (Her maiden name) COLLEEN ELIZABETH DALE
8 YOUR SEX MALE ☒ FEMALE ☐
5 FATHER'S FULL NAME (Regardless of whether living or dead) JOHN DAVID DALE
9 YOUR COLOR OR RACE WHITE ☒ NEGRO ☐ OTHER ☐
10 HAVE YOU EVER BEFORE APPLIED FOR OR HAD A SOCIAL SECURITY, RAILROAD, OR TAX ACCOUNT NUMBER? NO ☒ DON'T KNOW ☐ YES ☐ (If "YES" Print STATE in which you applied and DATE you applied and SOCIAL SECURITY NUMBER if known) INDIANA | 8/12/74 |
11 YOUR MAILING ADDRESS (Number and Street, Apt. No., P.O. Box, or Rural Route) 21 FYFFE ROAD (City) COLUMBUS (State) OHIO (Zip Code) 43210
12 TODAY'S DATE 3/25/75
13 TELEPHONE NUMBER 222-2222
14 Sign YOUR NAME HERE (Do Not Print) LARRY D. DALE

TREASURY DEPARTMENT Internal Revenue Service
Return completed application to nearest SOCIAL SECURITY ADMINISTRATION OFFICE
FORM SS-5
HAVE YOU COMPLETED ALL 14 ITEMS?

10. The completed application for a social security number shown above:

A. has been completed in the correct manner
B. contains 3 errors
C. contains 4 errors
D. contains 5 errors

GO TO NEXT PAGE

11. In order to make the best impression possible at a job interview, the applicant should:

A. arrive within ten minutes after the scheduled time
B. wear very comfortable sports clothes so that he will not be as nervous
C. smoke very little or not at all
D. wear very fashionable, bright clothes so that he will be remembered

12. The reactions of the people in a company or business toward each other may be interwoven into what is called:

A. company morale
B. success
C. failure
D. advancement or promotion

13. A salesperson who wants to improve in salesmanship ability should

A. ask a friend to come by and offer advice
B. not let the employer know that he wants help in becoming a better salesperson
C. not tell anyone, but get more experience in selling
D. ask the employer for suggestions for becoming a better salesperson

14. Good human relations traits are:

A. based on technical knowledge and skill
B. developed unconsciously
C. inherited
D. developed through practice

15. When differences of opinion arise, the person with a desirable personality will:

A. argue his point emphatically
B. discuss rather than argue
C. agree with the other person's point of view
D. stop voicing his opinion

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16. Most employers look for leadership potential in new employees because they like to promote people from within the organization rather than fill top jobs with people from outside the company.

    A. true
    B. false

17. Talking very slow on the telephone usually results in:

    A. more need for repeating
    B. losing the interest of the listener
    C. a lack of distinctness in your voice
    D. both A and C are correct

18. First impressions are almost always based on the salesperson's:

    A. manners
    B. appearance
    C. shoeshine
    D. hair style

19. When answering the telephone:

    A. do not answer it too promptly as the caller will assume you have nothing to do
    B. greet the caller with a cheerful "hello"
    C. do not be too enthusiastic as the caller will feel he is being pressured
    D. identify the firm you are working for and your name

20. Employers evaluate the personal qualities of potential employees by

    A. reviewing the application form
    B. interviewing the person applying for a job
    C. checking references provided by a job applicant
    D. all of the above

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21. Of the following items, the one which normally would not be included in your resume' or personal data sheet is:

    A. references
    B. marital status
    C. parent's name
    D. employment experience

22. The most common reason for people being fired from their jobs is:

    A. talking too much with customers
    B. inability to get along with their fellow workers
    C. not talking enough with customers
    D. high pressure selling

23. When filling out an application for employment, you should:

    A. only include information which will make you look desirable to the employer
    B. not give information concerning your physical status
    C. print as neatly as possible
    D. both B and C are correct

24. After unloading bulk feed, the driver for the Agriculture Supply Store accidentally backed into the farmer's feed spout and broke it. Which of the following should the delivery person do?

    A. go back and try to fix the feed spout
    B. report the damage to the manager and let him handle it
    C. forget about it and hope the farmer will think someone else did it
    D. hire a repair man to fix it and pay for the repair

25. Of the following qualities, the most important for an effective voice are:

    A. distinctness
    B. emphasis on key words and phrases
    C. softness
    D. both A and B are correct
    E. all of the above are correct

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26. In many businesses the management evaluates the human relations of the business by:

A. self-satisfaction of employees
B. morale or attitude surveys
C. criticisms and suggestions of customers
D. number of employees who have been dismissed

27. While developing your philosophy of life, you should consider:

A. your code of personal ethics and morality
B. your ability to accept change
C. knowing what you stand for
D. both A and C are correct
E. all of the above are correct

28. The supervisors in an agricultural business will usually be the owner of the business, the manager, or a foreman. These persons hold supervisory positions because:

A. of their ability to give orders to employees
B. they do more work than other workers
C. of their past experience or success
D. none of the above

END OF TEST

TABLE: 2-6 A
AREA: Agricultural Supplies and Services
TEST NO.: 2-6
KUDER-RICHARDSON 20: .651
KUDER-RICHARDSON 21: .539

N(tests) = 122

Item	Correct Option	Relative Diffi- culty	Phi Coeff- icient	Point Biserial Coefficient	Discrim- ination Index
1.	D	.066	.637	.305	17.6
2.	B	.402	.383	.215	24.4
3.	E	.999	.000	.000	00.0
4.	D	.213	.440	.165	22.3
5.	D	.385	.876	.426	55.7
6.	D	.270	.673	.279	32.2
7.	D	.115	.637	.276	21.1
8.	C	.426	.637	.310	32.6
9.	C	.016	.203	.140	2.9
10.	D	.590	.876	.484	57.3
11.	C	.721	.368	.181	21.0
12.	A	.230	.770	.440	40.5
13.	D	.074	.729	.431	26.5
14.	D	.270	.818	.417	46.9
15.	B	.189	.760	.432	36.4
16.	A	.098	.249	.167	10.5
17.	B	.393	.426	.181	27.3
18.	B	.221	.233	.138	12.2
19.	D	.164	.760	.461	36.4
20.	D	.238	.780	.447	39.9
21.	C	.557	.696	.330	37.8
22.	B	.1[illegible]3	.750	.360	29.4
23.	C	.533	.718	.314	40.2
24.	B	.361	.809	.431	48.0
25.	D	.459	.836	.433	52.1
26.	B	.705	.141	.089	8.7
27.	E	.434	.413	.316	31.4
28.	C	.328	.780	.418	45.1
29.					
30.					

AREA: AGRICULTURAL SUPPLIES AND SERVICES

Unit: Formulating Feed Mixtures

Student Performance Objectives

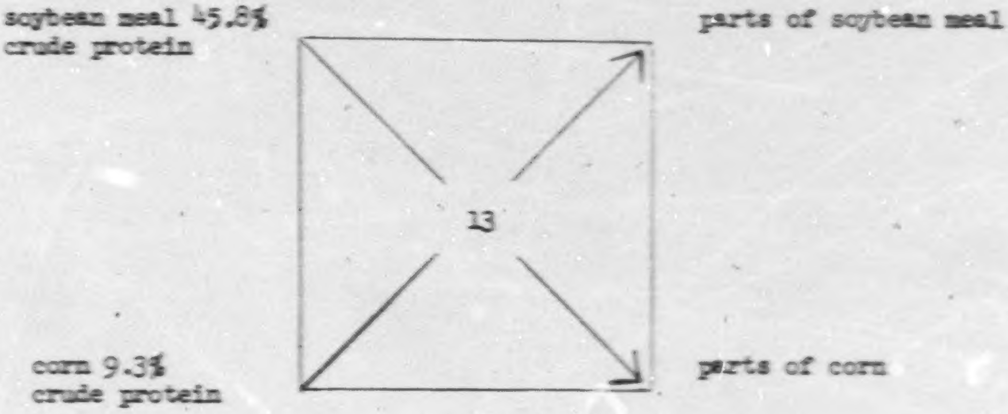
The student should be able to:

1. When presented with appropriate technical information and information regarding the livestock or poultry to be fed, assist in correctly balancing rations for animals according to standards set forth in technical feeding publications.
2. When balancing rations for a customer, formulate the most economical balanced ration by using grain and supplement substitutes available to the customer.
3. When balancing rations for a customer, add feed additives and medications to a ration for specific animals in compliance with a veterinarian's request and in accordance with Federal Drug Administration (FDA) and state regulations.

AREA: AGRICULTURAL SUPPLIES AND SERVICES

Unit: Formulating Feed Mixtures
(2-7)

1. Below is shown a correctly prepared "square method" or (the Pearson Square Method) to find the parts of soybean meal and corn to achieve a ration having 13% crude protein. Which item indicates the correct mixture from the square method?



A. 3.7 parts of soybean meal and 32.8 parts of corn
B. 9.3 parts of soybean meal and 45.8 parts of corn
C. 22.3 parts of soybean meal and 58.8 parts of corn
D. 32.8 parts of soybean meal and 3.7 parts of corn

2. Some antibiotic pre-mixes have been used for disease prevention and control as well as to promote growth. Which of the following shows the relative amounts of an antibiotic used for each of the three purposes.

A. 50 grams for growth promotion, 100 grams for disease prevention and 200 grams for disease treatment
B. 200 grams for growth, 100 grams for disease prevention and 50 grams for disease treatment
C. 100 grams for growth, 200 grams for disease prevention and 50 grams for disease treatment

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3. Which of the following is not a source of phosphorus for livestock rations:

A. ground limestone
B. steamed bone meal
C. di-calcium phosphate
D. iodized salt

4. A variety of grain grown in one state may not have the same chemical composition as the same variety of grain grown in another state.

A. true
B. false

5. Mill pre-mixes should be added to the blender:

A. before any of the batch has entered the blender
B. once 20% or 25% of the batch has entered the blender
C. after all the batch has entered the blender

6. Young growing livestock have a need for a ration with a higher percent protein than do mature animals.

A. true
B. false

7. Urea must be mixed uniformly and thoroughly in the ration, otherwise one animal may get enough to be poisoned.

A. true
B. false

8. The agency which is responsible for setting standards so that no harmful drugs are fed to livestock that would carry through the animals body and be found in the food products of milk, meat, and eggs is the:

A. National Research Council (N.R.C.)
B. U.S. Department of Agriculture
C. Federal Food and Drug Administration (F.D.A.)
D. American Medical Association (A.M.A.)

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9. While the soils across the U.S. differ in mineral content, grains and forages from plants which grow in various soil types will all have essentially the same levels of nutrients.

A. true
B. false

10. Necessary mineral needs should be taken care of by mixing them in the ration since it is a myth or "old wives tale" that animals will balance out their mineral needs when these are offered separately and free choice (like a salt block, or bone meal in a box).

A. true
B. false

11. "Units of vitamins", "grams of milligrams per pound" and "percentage of active drug" are all:

A. potency levels of ingredients
B. mixing or feeding directions
C. cautious in the use of the product
D. weight of ingredients

12. An excess of an essential mineral element in a ration will not have any hazardous effects on the animals but is wasteful and unnecessarily costly.

A. true
B. false

13. The mineral that needs to be supplied in the largest amounts to livestock rations is:

A. calcium
B. copper
C. iodine
D. cobalt

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14. When the Pearson Square method indicates that eight parts of corn and three parts of soybean meal are needed to balance a ration, the percent of each can be determined by:

A. dividing 3 by 8
B. divide both the 3 and the 8 by their sum (11) and multiply each by 100
C. divide the 3 and the 8 by 100
D. divide the 3 and the 8 by their sum (11) and multiply by 100

15. Grains such as shelled corn, wheat or barley have a higher proportion of total digestible nutrients than do roughages such as alfalfa hay or corn ensilage.

A. true
B. false

16. When urea is used as a source of protein there is no reason to limit the amount of urea other than cost factors.

A. true
B. false

17. Which of the following would not be listed as a pre-mix feed additive.

A. protein supplement
B. vitamin mixture
C. medication
D. growth stimulator

18. Urea has little or no value as a protein substitute for swine or poultry, although it is not poisonous to them when fed in amounts normally recommended for cattle.

A. true
B. false

19. In order to obtain value from urea, it must be fed with some easily fermentable carbohydrates, such as the starches of grains or the sugar of molasses.

A. true
B. false

GO TO NEXT PAGE

20. Some of the nutrients or food elements have a relationship to one another so that the normal effects of one may be harmed by either an excess or lack of another one.

A. true
B. false

END OF TEST

TABLE: 2-7 A
AREA: Agricultural Supplies and Services
TEST NO.: 2-7
KUDER-RICHARDSON 20: .027
KUDER-RICHARDSON 21: -.277

N(tests) = 32

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	A	.750	.187	.128	10.0
2.	A	.563	.413	.299	30.0
3.	D	.875	.383	.203	20.0
4.	A	.094	.000	.085	00.0
5.	B	.625	.156	.090	10.0
6.	A	.219	.000	.088	00.0
7.	A	.250	.836	.274	50.0
8.	C	.469	.309	.248	20.0
9.	B	.375	-.156	.106	-10.0
10.	B	.313	.969	.610	70.0
11.	A	.500	---	.633	90.0
12.	B	.500	.454	.285	30.0
13.	A	.375	.309	.237	20.0
14.	B	.594	.905	.340	60.0
15.	A	.188	-.187	.046	-10.0
16.	B	.031	.353	.472	10.0
17.	A	.906	-.218	.024	-10.0
18.	A	.625	.413	.221	30.0
19.	A	.281	.818	.235	40.0
20.	A	.281	-.187	-.081	-10.0
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

AREA: AGRICULTURAL SUPPLIES AND SERVICES

Unit: Making Seed Recommendations

Student Performance Objectives

The student should be able to:

1. When asked specific questions about certain varieties of seeds, locate sources of such information and present such information to the customer in a manner acceptable to the local employer.
2. When asked to provide mixtures for specific purposes, locate and use technical references which contain specific information for mixtures used locally and present such information to the customer in a manner acceptable to the local employer.
3. When asked to provide a quantity of seed for a customer, accurately determine the amount of seed needed by the farmer to seed a given acreage.

AREA: AGRICULTURAL SUPPLIES AND SERVICES

Unit: Making Seed Recommendations (2-8)

1. The amount of seed which will germinate of the desired crop present in any lot of seed material is listed on the seed tag as:

   A. pure live seed
   B. inert matter
   C. hard seeds
   D. noxious varieties

2. A crop producer wishes to seed 20 acres with a mixture of 10 pounds of Alfalfa and 6 pounds of Smooth Bromegrass per acre. He has another 10 acres where he plans to use a mixture of 7 pounds of Alfalfa, 3 pounds of Red Clover and 6 pounds of Smooth Bromegrass per acre.

   The total seed needed to plant this producer's forage crop is:

   A. 17 pounds of Alfalfa, 12 pounds of Smooth Bromegrass, and 3 pounds of Red Clover
   B. 200 pounds of Alfalfa, 120 pounds of Smooth Bromegrass and 30 pounds of Red Clover
   C. 300 pounds of Alfalfa, 90 pounds of Red Clover, and 80 pounds of Smooth Bromegrass.
   D. 270 pounds of Alfalfa, 180 of Smooth Bromegrass, and 30 pounds of Red Clover

3. The weight of Timothy seed per bushel compared to the weight of Alfalfa seed is:

   A. the same since the weight per bushel of all forage seeds is the same
   B. lighter than Alfalfa
   C. is dependent upon the variety of each
   D. heavier than Alfalfa

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4. If a seed tag reads "95.5% pure seed" and "92% germination", the percentage of seed that can be expected to produce normal plants under favorable conditions in the field is:

A. 95.5%
B. 92%
C. 87.86%
D. 3.5%

5. To obtain the recommended harvest stand of corn, it is suggested that the planter be set to drop 20% more seed than the desired stand for plant populations below 20,000 plants per acre. If the grower wishes 18,000 plants per acre he needs to set his planter to drop ____ seeds per acre.

A. 14,400
B. 18,000
C. 21,600
D. 40,000

6. Both ear corn and shelled corn are figured at the same weight per bushel.

A. true
B. false

7. Seeds that will germinate, but take longer than the prescribed time during testing are referred to as:

A. retarded seed
B. restricted noxious
C. slow seeds
D. hard seeds

8. If wheat which has matured in the field is rained on several times before it has been harvested, the test weight:

A. will tend to be higher than wheat that was not rained on
B. will definitely be higher if moisture level in grain is higher
C. will tend to be lower than wheat that was not rained on
D. will not be changed because test weight is determined strictly by the type of grain and variety

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9. Alfalfa seed weighs 60 pounds per bushel. A farmer wishes to get enough of the seed to seed 40 acres at the rate of 12 pounds per acre. You should see that he receives:

A. 4 bushels
B. 6 bushels
C. 8 bushels
D. none of the above are correct

10. A seed tag which states a particular lot of seed has .01% weed seed, means there is:

A. 1 lb. of weedseed in a hundred pounds of seed
B. 1/10 of a lb. of weed seed in 100 lb. of seed
C. 1/100 of a lb. of weed seed in 100 lb. of seed
D. 1/100 of a lb. of weed seed in 1 lb. of seed

SEEDING MIXTURES TABLE

Seeding	Legumes and Grasses-lb/A[1]	Notes
		Mixture for Hay, Silage, or Rotational Grazed Pasture
A	Alfalfa 12	Alfalfa seeded alone may be more weedy, less winter hardy and may lodge more than alfalfa-grass mixtures.
B	Alfalfa 10 with Timothy 1-2 (Fall)-4 (Spring) or Smooth Bromegrass 6 or Orchardgrass 4	Most forage seedings in Ohio are a grass-legume mixture. Seeding some fields to alfalfa-orchardgrass, others to alfalfa-bromegrass, and others to alfalfa-timothy will permit spreading the first harvest, each year, over a period of two weeks without serious loss of quality. Orchardgrass seeding rate may be reduced to 2 pounds per acre where an alfalfa dominant mixture is desired.
C	Alfalfa 7 and Red Clover 3 with Timothy 1-2 (Fall)-4 (Spring) or Smooth Bromegrass 6 or Orchardgrass 4	Red clover is more tolerant than alfalfa to heavy shading by companion grain crops. These mixtures are recommended for seedings in wheat and other winter grains, and for use on fields where restricted soil drainage or low pH may reduce stands and growth of alfalfa. Red clover is not well adapted to summer seeding.
D	Red Clover 8 with Timothy 1-2 (Fall)-4 (Spring) or Smooth Bromegrass 6 or Orchardgrass 4	These mixtures should be used on fields which will not produce satisfactory stands and yields of alfalfa. After the first harvest year, there will be little or no clover in the stand and the seeding should be treated as a pure stand of grass.
E	Birdsfoot Trefoil 6 with Timothy 4	On some poorly drained soils of northeastern Ohio, birdsfoot trefoil produces higher yields than alfalfa. Where alfalfa does well, it yields 20 to 40 per cent more than birdsfoot trefoil. Uprightgrowing strains of birdsfoot trefoil, such as Viking, should be used for hay. In southern Ohio, birdsfoot trefoil stands are generally short-lived except where natural reseeding occurs.

SEEDING MIXTURES TABLE

Seeding	Legumes and Grasses-lb/A[1]	Notes
		Mixtures for Long-lay Pastures
F	Orchardgrass 6	Add ladino white clover-1/2 to 1 lb/A-where a ladino-grass pasture is desired. There is some danger of bloat when cattle are grazing ladino white clover-grass pastures. Ladino white clover in this mixture increases livestock acceptability of tall fescue.
	or Tall Fescue 10-15	10 lb. of tall fescue is sufficient for pasture establishment in most situations. 15 lb. may be advisable in potential areas of severe soil erosion.
G	Birdsfoot Trefoil 6 with Timothy 4	Kentucky bluegrass-1 to 2 lb/A- should be substituted for timothy where a birdsfoot trefoil-bluegrass sod is desired in the shortest possible time. On fields which had good bluegrass sod prior to the start of the seedbed preparation, it is not necessary to sow a grass with birdsfoot trefoil. Bluegrass from the old sod will quickly re-establish to form a birdsfoot trefoil-bluegrass sod. Low-growing strains of birdsfoot trefoil, such as Empire -should be used for pasture.
H	Reed Canarygrass 10	Reed canarygrass is recommended for use in areas too wet to support other forage grasses. Reed canarygrass will also produce high yields on well-drained sites, but it is less palatable than other species which can be grown.
I	Korean Lespedeza 8	Korean lespedeza broadcast over pastures in southern Ohio in which there is considerable bare ground will increase summer and fall production of such pastures.
J	Crownvetch 5-10	May require 1-4 years to obtain a productive stand. Timothy or bluegrass may be added to the seeding.

Using the Seeding Mixtures Table on the preceding two pages answer the following questions.

11. Alfalfa seeded alone may have more winter kill but tend to stand upright better than a mixture of Alfalfa and grass.

A. true
B. false

12. If drainage is poor or the soil pH is low, Red Clover is suggested to be put in a mixture with Alfalfa.

A. true
B. false

13. When long lasting stands (2 or more years) of forage are needed, Red Clover is a good choice.

A. true
B. false

14. The number "10" following the name "Reed Canary Grass" in item H stands for the variety of Reed Canary Grass.

A. true
B. false

15. Birds Foot Treefoil would be a very good choice of seed for the area of Southern Ohio if a long lasting forage was needed.

A. true
B. false

16. Seven pounds of Alfalfa, 3 pounds Red Clover and 1-2 pounds of Timothy is a recommended mixture for hay, silages or rotational grazed pastures.

A. true
B. false

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17. Reed Canary Grass is not recommended for wet areas.

A. true
B. false

END OF TEST

TABLE: 2-8
AREA: 2-8
TEST NO.:
KUDER-RICHARDSON 20:
KUDER-RICHARDSON 21:

Item	Correct Option	Relative Difficulty	Phi Coefficient	Point Biserial Coefficient	Discrimination Index
1.	A				
2.	D				
3.	B				
4.	C				
5.	C				
6.	B				
7.	D				
8.	C				
9.	C				
10.	C				
11.	B				
12.	A				
13.	B				
14.	B				
15.	B				
16.	A				
17.	B				
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